

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material under §240.14a-12

Yield10 Bioscience, Inc.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check all boxes that apply):

- No fee required.
- Fee paid previously with preliminary materials.
- Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a-6(i)(1) and 0-11.



April 5, 2023

Dear Stockholder:

You are cordially invited to attend the 2023 annual meeting of stockholders of Yield10 Bioscience, Inc. to be held in a virtual format on Thursday, May 25, 2023, at 10:00 a.m. Eastern Time.

We have decided to hold this year's annual meeting virtually via live audio webcast on the internet. We believe hosting a virtual annual meeting enables greater stockholder attendance and participation from any location around the world, improves meeting efficiency and our ability to communicate effectively with our stockholders. It also reduces the cost and environmental impact of our annual meeting. You will be able to attend the annual meeting, vote and submit your questions during the annual meeting by pre-registering at <https://viewproxy.com/yield10bio/2023/>. You will not be able to attend the annual meeting in person.

Details regarding the meeting, the business to be conducted at the meeting, and information about Yield10 Bioscience, Inc. that you should consider when you vote your shares are described in the accompanying proxy statement.

At the annual meeting, two persons will be elected to our Board of Directors as Class II directors for three-year terms. In addition, we will ask stockholders to approve a proposed amendment to the Company's Amended and Restated 2018 Stock Option and Incentive Plan and to ratify the appointment of RSM US LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2023. The Board of Directors recommends the approval of each of these proposals. Such other business will be transacted as may properly come before the annual meeting.

We hope you will be able to virtually attend the annual meeting. Whether you plan to attend the annual meeting or not, it is important that you cast your vote by proxy. You may vote over the Internet as well as by telephone or by mail. When you have finished reading the proxy statement, you are urged to vote in accordance with the instructions set forth in the proxy statement. We encourage you to vote by proxy so that your shares will be represented and voted at the meeting, whether or not you can attend.

Thank you for your continued support of Yield10 Bioscience, Inc.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Oliver P. Peoples', with a stylized flourish at the end.

OLIVER P. PEOPLES
President and Chief Executive Officer

YIELD10 BIOSCIENCE, INC.

19 Presidential Way
Woburn, Massachusetts 01801

(617) 583-1700

NOTICE OF 2023 ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON MAY 25, 2023

To the Stockholders of Yield10 Bioscience, Inc.:

The 2023 Annual Meeting of Stockholders (“Annual Meeting”) of Yield10 Bioscience, Inc., a Delaware corporation (the “Company”), will be held on Thursday, May 25, 2023, at 10:00 a.m., Eastern Time, in a virtual format, for the following purposes:

1. To elect two (2) Class II Directors, each to serve for a three-year term and until their respective successors have been duly elected and qualified or until their earlier death, resignation or removal;
2. To approve a proposed amendment to the Company’s 2018 Stock Option and Incentive Plan;
3. To ratify the appointment of RSM US LLP as our independent registered public accounting firm for the year ending December 31, 2023; and
4. To transact such other business as may properly come before the Annual Meeting and any adjournments or postponements thereof.

WHO MAY VOTE:

You may vote if you were the record owner of Yield10 Bioscience, Inc. common stock at the close of business on March 28, 2023.

VIRTUAL MEETING:

The Annual Meeting will be a virtual meeting via live audio webcast on the Internet. Stockholders who wish to attend the Annual Meeting must pre-register at <https://viewproxy.com/yield10bio/2023/> by 11:59 p.m. Eastern Time, on Saturday, May 20, 2023. You will receive an event passcode to attend the meeting, and a virtual control number to vote if proper documentation is provided. The live audio webcast of the Annual Meeting can be accessed by stockholders on the day of the meeting at <https://viewproxy.com/yield10bio/2023/vm>. You will not be able to attend the Annual Meeting in person.

We believe hosting a virtual annual meeting enables greater stockholder attendance and participation from any location around the world, improves meeting efficiency and our ability to communicate effectively with our stockholders. It also reduces the cost and environmental impact of our annual meeting. Both stockholders of record and street name stockholders will be able to attend the Annual Meeting via live audio webcast, submit their questions during the meeting and vote their shares electronically at the Annual Meeting.

There will be technicians ready to assist you with any technical difficulties you may have accessing the annual meeting live audio webcast. Please be sure to check in by 9:30 a.m. Eastern Time, on May 25, 2023, (at least 15 minutes prior to the start of the meeting is recommended) the day of the meeting, so that any technical difficulties may be addressed before the annual meeting live audio webcast begins. If you encounter any difficulties accessing the webcast during the check-in or meeting time, please email virtualmeeting@viewproxy.com or call 866-612-8937.

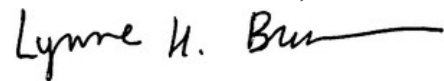
All stockholders are cordially invited to attend the Annual Meeting. **Whether you plan to virtually attend the Annual Meeting or not, we urge you to vote and submit your proxy by the Internet, telephone or mail in**

order to ensure the presence of a quorum. You may change or revoke your proxy at any time before it is voted at the Annual Meeting.

Woburn, Massachusetts

April 5, 2023

By Order of the Board of Directors,

A handwritten signature in black ink that reads "Lynne H. Brum" followed by a long horizontal flourish.

LYNNE H. BRUM

Secretary

TABLE OF CONTENTS

	PAGE
IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING.....	<u>2</u>
SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT.....	<u>4</u>
DIRECTORS AND EXECUTIVE OFFICERS.....	<u>5</u>
CORPORATE GOVERNANCE AND BOARD MATTERS.....	<u>9</u>
THE BOARD OF DIRECTORS AND ITS COMMITTEES.....	<u>13</u>
EXECUTIVE COMPENSATION	<u>15</u>
PAY VERSUS PERFORMANCE.....	<u>19</u>
DIRECTOR COMPENSATION.....	<u>22</u>
SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS.....	<u>23</u>
CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS.....	<u>23</u>
REPORT OF THE AUDIT COMMITTEE.....	<u>24</u>
INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS.....	<u>25</u>
Proposal No. 1 ELECTION OF DIRECTORS.....	<u>26</u>
Proposal No. 2 APPROVAL OF AN AMENDMENT TO THE COMPANY'S 2018 STOCK OPTION AND INCENTIVE PLAN.....	<u>26</u>
Proposal No. 3 RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM.....	<u>33</u>
OTHER MATTERS.....	<u>34</u>
STOCKHOLDER PROPOSALS AND NOMINATIONS FOR DIRECTOR.....	<u>34</u>

Appendix A - Amended and Restated 2018 Stock Option and Incentive Plan

WHETHER OR NOT YOU EXPECT TO ATTEND THE ANNUAL MEETING, PLEASE COMPLETE, SIGN, DATE AND MAIL PROMPTLY THE ENCLOSED PROXY WHICH IS BEING SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS SO THAT YOUR SHARES WILL BE REPRESENTED AT THE ANNUAL MEETING. A RETURN ENVELOPE WHICH REQUIRES NO POSTAGE IF MAILED IN THE UNITED STATES IS ENCLOSED FOR THAT PURPOSE. YOU NEED TO VOTE IN ACCORDANCE WITH THE INSTRUCTIONS LISTED ON THE PROXY CARD. IF SHARES ARE HELD IN A BANK OR BROKERAGE ACCOUNT, YOU MAY BE ELIGIBLE TO VOTE ELECTRONICALLY OR BY TELEPHONE. PLEASE REFER TO THE ENCLOSED VOTING INSTRUCTION FORM FOR INSTRUCTIONS.

YIELD10 BIOSCIENCE, INC.

**19 Presidential Way
Woburn, Massachusetts 01801**

PROXY STATEMENT FOR YIELD10 BIOSCIENCE, INC.

**2023 Annual Meeting of Stockholders
To Be Held on May 25, 2023**

April 5, 2023

This proxy statement, along with the accompanying notice of 2023 annual meeting of stockholders, contains information about the 2023 annual meeting of stockholders of Yield10 Bioscience, Inc. including any adjournments or postponements of the annual meeting. We are holding the annual meeting on Thursday, May 25, 2023, at 10:00 a.m., Eastern Time in a virtual format at <https://viewproxy.com/yield10bio/2023/vm>. In this proxy statement, we refer to Yield10 Bioscience, Inc. as “Yield10,” “the Company,” “we” and “us.” This proxy statement relates to the solicitation of proxies by our Board of Directors for use at the annual meeting.

Stockholders who wish to attend the Annual Meeting must pre-register at <https://viewproxy.com/yield10bio/2023/> by 11:59 p.m. Eastern time, on Saturday, May 20, 2023. You will receive an event passcode to attend the meeting, and a virtual control number to vote if proper documentation is provided. The live audio webcast of the Annual Meeting can be accessed by stockholders on the day of the meeting at <https://viewproxy.com/yield10bio/2023/vm>. You will not be able to attend the Annual Meeting in person. An Annual Report to Stockholders, containing financial statements for the fiscal year ended December 31, 2022, is being mailed together with this proxy statement to all stockholders entitled to vote at the Annual Meeting. On or about April 10, 2023, we intend to begin sending this proxy statement, the attached notice of 2023 annual meeting of stockholders and the enclosed proxy card to all stockholders entitled to vote at the Annual Meeting.

The purposes of the Annual Meeting are to:

1. To elect two (2) Class II Directors, each to serve for a three-year term and until their successors have been duly elected and qualified or until their earlier death, resignation or removal;
2. To approve a proposed amendment to the Company’s 2018 Stock Option and Incentive Plan (the “2018 Plan”);
3. To ratify the appointment of RSM US LLP as our independent registered public accounting firm for the year ending December 31, 2023; and
4. Transact any such other business that may properly come before the Annual Meeting and any adjournments or postponements thereof.

Only stockholders of record at the close of business on March 28, 2023 (the “Record Date”) will be entitled to receive notice of and to vote at the Annual Meeting. As of the Record Date, 5,074,085 shares of our common stock were issued, outstanding and entitled to vote.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDER MEETING TO BE HELD ON MAY 25, 2023

This proxy statement, the notice of 2023 annual meeting of stockholders, our form of proxy card and our 2022 annual report to stockholders are available for viewing, printing and downloading at www.proxyvote.com. To view these materials please have your 16-digit control number(s) available that appears on your proxy card. On this website, you can also elect to receive future distributions of our proxy statements and annual reports to stockholders by electronic delivery.

Additionally, you can find a copy of our [Annual Report on Form 10-K](#), which includes our financial statements for the fiscal year ended December 31, 2022, on the website of the Securities and Exchange Commission, or the SEC, at www.sec.gov, or in the “SEC Filings” section of the “Investors” section of our website at www.yield10bio.com. You may also obtain a printed copy of our Annual Report on Form 10-K, including our financial statements, free of charge, from us by sending a written request to: Yield10 Bioscience, Inc., 19 Presidential Way, Woburn, MA 01801. Exhibits will be provided upon written request and payment of an appropriate processing fee.

IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

The holders of common stock are entitled to one vote per share on any proposal presented at the Annual Meeting. Stockholders may vote at the virtual meeting or by proxy. Stockholders may vote by proxy by completing, signing, dating and returning the accompanying proxy card in the postage-prepaid envelope enclosed for that purpose in accordance with the instructions listed on the proxy card. Execution of a proxy will not in any way affect a stockholder’s right to attend the virtual Annual Meeting and vote.

Any proxy given pursuant to this solicitation may be revoked by the person giving it any time before the taking of the vote at the Annual Meeting. Proxies may be revoked by (1) filing with the Secretary of Yield10, before the taking of the vote at the Annual Meeting, a written notice of revocation bearing a later date than the proxy, (2) duly executing a later-dated proxy relating to the same shares and delivering it to the Secretary of Yield10, in accordance with the instructions listed on the proxy card, before the taking of the vote at the Annual Meeting, (3) if shares are held in a bank or brokerage account and if eligible, by transmitting a subsequent vote over the Internet or by telephone, or (4) attending the virtual Annual Meeting and voting during the meeting (although attendance at the Annual Meeting will not in and of itself constitute a revocation of a proxy). Any written notice of revocation or subsequent proxy should be sent to Yield10 Bioscience, Inc., 19 Presidential Way, Woburn, MA 01801, Attention: Secretary, so as to be delivered before the taking of the vote at the Annual Meeting.

If your shares are held by a broker on your behalf (that is, in “street name”), you may be required to present an account statement or letter from your bank or brokerage firm showing that you are the beneficial owner of the shares as of the Record Date in order to register to attend the Annual Meeting. To be able to vote your shares held in street name at the Annual Meeting, you will need to obtain a proxy from the holder of record and provide a copy of the proxy as part of the registration process for attending the Annual Meeting.

The persons named as attorneys-in-fact in the proxies, Oliver P. Peoples, Ph.D. and Charles B. Haaser, were selected by the Board of Directors and are officers of the Company. All properly executed proxies returned in time to be counted at the Annual Meeting will be voted by such persons at the Annual Meeting as stated below. When a choice has been specified on the proxy with respect to a matter, the shares represented by the proxy will be voted in accordance with the specifications. If a proxy is submitted without giving voting instructions, such shares will be voted:

- FOR election of the director nominees;
- FOR the approval of the amendment to the Company’s 2018 Plan;
- FOR the ratification of the appointment of RSM US LLP; and
- as the persons named as proxies may determine in their discretion with respect to any other matters properly presented at the meeting.

The representation at the meeting or by proxy of at least a majority of the outstanding shares of common stock entitled to vote at the Annual Meeting is necessary to constitute a quorum for the transaction of business. Votes withheld from the nominee, abstentions and broker “non-votes” are counted as present or represented for purposes of determining the presence or absence of a quorum for the Annual Meeting. A “non-vote” occurs when a nominee holding shares for a beneficial owner votes on one proposal but does not vote on another proposal because, with respect to such other proposal, the nominee does not have discretionary voting power and has not received instructions from the beneficial owner.

If your shares are held in street name, and you do not instruct the broker as to how to vote your shares on the ratification of the appointment of RSM US LLP as our independent registered public accounting firm for the year ending December 31, 2023 (“Proposal 3”), the broker may exercise its discretion to vote for or against this proposal. If a broker does not exercise this authority with respect to Proposal 3, this would be a “broker non-vote.” If you do not instruct the broker as to how to vote your shares on all other proposals described below, the broker may not exercise discretion to vote with respect to those proposals. This would also be a “broker non-vote,” and these shares will not be counted as having been voted on that proposal. **Please vote your proxy so your vote can be counted.**

Proposal 1: Election of Directors. Directors are elected by a plurality of the votes cast, at the meeting or by proxy, at the Annual Meeting. The nominees who receive the highest number of affirmative votes of the shares present or represented and voting on the election of directors at the Annual Meeting will be elected to the Board of Directors. Proxies that are submitted and not so marked as to withhold authority to vote for the nominee will be voted FOR that nominee and will be counted toward such nominee’s achievement of a plurality. Brokerage firms do not have authority to vote customers’ unvoted shares held by the firms in street name on this proposal. Shares present at the meeting or represented by proxy where the stockholder properly withholds authority to vote for such nominee in accordance with the proxy instructions will not be counted toward such nominee’s achievement of a plurality.

Proposal 2: Approval of Amendment to the Company’s 2018 Stock Option and Incentive Plan. The affirmative vote of a majority of the shares of common stock cast by the stockholders present in person or represented by proxy at the Annual Meeting is required to approve the amendment to the Company’s 2018 Plan. Brokerage firms do not have authority to vote customers’ unvoted shares held by the firms in street name on this proposal. As a result, any shares not voted by a customer will be treated as a broker non-vote. Abstentions and broker non-votes will not be counted towards the vote total for this proposal and will have no effect on the results of this vote.

Proposal 3: Ratification of Independent Registered Public Accounting Firm. The affirmative vote of a majority of the shares of common stock cast by the stockholders present at the meeting or represented by proxy at the Annual Meeting is required to ratify the selection of RSM US LLP as our independent registered public accounting firm for the year ending December 31, 2023. Brokerage firms do have authority to vote customers’ unvoted shares held by the firms in street name on this proposal. Abstentions and broker non-votes will not be counted towards the vote total for this proposal and will have no effect on the results of this vote.

Other Matters. The Board knows of no other matters to be presented at the Annual Meeting. If any other matter should be presented at the Annual Meeting upon which a vote properly may be taken, the affirmative vote of the majority of shares present, at the meeting or represented by proxy, and voting on that matter is required for approval and all such shares represented by proxies received by the Board will be voted with respect thereto in accordance with the judgment of the persons named as attorneys-in-fact in the proxies.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding beneficial ownership of the Company's Common Stock as of March 24, 2023: (i) by each person known to us to be the beneficial owner of more than 5% of our outstanding shares of Common Stock; (ii) by each of our directors and nominees; (iii) by each of our named executive officers; and (iv) by all of our directors and executive officers as a group. Unless otherwise noted below, the address of each person listed on the table is c/o Yield10 Bioscience, Inc., 19 Presidential Way, Woburn, MA 01801.

Beneficial Owner	Shares of Common Stock(1)	Options Exercisable Within 60 Days(2)	Warrants Exercisable Within 60 Days (2)	Total Shares Beneficially Owned	Percentage of Outstanding Shares(3)
5% Stockholders:					
Jack W. Schuler(4) 28161 North Keith Drive Lake Forest, IL 60045	895,036	—	398,385	1,293,421	23.6 %
Total 5% Stockholders	895,036	—	398,385	1,293,421	23.6 %
Directors, Nominees and Named Executive Officers:					
Lynne H. Brum(5)	18,250	39,673	—	57,923	1.1 %
Oliver P. Peoples, Ph.D.(6)	47,161	167,591	—	214,752	4.1 %
Kristi D. Snell, Ph.D.(7)	19,285	71,366	—	90,651	1.8 %
Sherri M. Brown, Ph.D.	—	14,936	—	14,936	*
Richard W. Hamilton, Ph.D.	76	7,597	—	7,673	*
Willie Loh, Ph.D.	—	2,500	—	2,500	*
Anthony J. Sinskey, Sc.D.(8)	12,309	30,122	—	42,431	*
Robert L. Van Nostrand	282	21,598	—	21,880	*
All directors and executive officers as a group (9 persons)(9)	117,513	395,049	—	512,562	9.4 %

* Represents beneficial ownership of less than 1% of the outstanding shares of our Common Stock.

- (1) Beneficial ownership, as such term is used herein, is determined in accordance with Rule 13d-3(d)(1) promulgated under the Securities Exchange Act of 1934, as amended, and includes voting and/or investment power with respect to shares of common stock. Unless otherwise indicated, the named person possesses sole voting and investment power with respect to the shares.
- (2) Consists of shares of common stock subject to stock options and warrants held by the person that are currently vested or will vest within 60 days after March 24, 2023.
- (3) Percentages of ownership are based upon 5,074,085 shares of common stock issued and outstanding as of March 24, 2023. Shares of common stock that may be acquired pursuant to options and warrants that are vested and exercisable within 60 days after March 24, 2023, are deemed outstanding for computing the percentage ownership of the person holding such options, but are not deemed outstanding for the percentage ownership of any other person.
- (4) The reported securities consist of 861,016 shares of common stock and 398,385 shares of common stock underlying the warrants owned by the JWS Living Trust, 33,999 shares of common stock owned by the Schuler Family Foundation, and 21 shares of common stock owned by the Renate Schuler Trust. Mr. Schuler has sole voting and investment power over the shares issued to the JWS Living Trust, the Schuler Family Foundation and Renate Schuler Trust. Beneficial ownership information for Mr. Schuler has been derived from his historical SEC filings.
- (5) Includes 9,924 shares held for Ms. Brum in the Company's 401(k) plan.
- (6) Includes 8,853 shares held for Dr. Peoples in the Company's 401(k) plan.
- (7) Includes 10,247 shares held for Dr. Snell in the Company's 401(k) plan.
- (8) Includes 20 shares owned by the estate of Dr. Sinskey's spouse and 4 shares owned by a trust over which Dr. Sinskey may be deemed to share voting and investment power. Dr. Sinskey disclaims beneficial ownership of such shares.
- (9) Includes Charles B. Haaser, who is an executive officer but not a named executive officer. Also includes a total of 9,848 shares held for Mr. Haaser in the Company's 401(k) plan.

DIRECTORS AND EXECUTIVE OFFICERS

The Company's executive officers are appointed on an annual basis by, and serve at the discretion of the Board. Each executive officer is a full-time employee of Yield10. The following table sets forth the directors and executive officers of the Company, their ages, and the positions currently held by each such person with the Company as of the date of this proxy statement:

Name	Age	Position
Oliver P. Peoples, Ph.D.	65	President and Chief Executive Officer, Director
Sherri M. Brown, Ph.D.(4)	62	Director
Richard W. Hamilton, Ph.D.(1)(2)(3)(4)	60	Director
Anthony J. Sinskey, Sc.D.(1)(2)(3)(4)	82	Director
Robert L. Van Nostrand(1)(2)	65	Chairman of the Board, Director
Willie Loh, Ph.D. (3)(4)	68	Director
Lynne H. Brum	59	Vice President, Planning and Corporate Communications
Charles B. Haaser	67	Vice President, Finance, Chief Accounting Officer and Treasurer
Kristi D. Snell, Ph.D.	55	Vice President, Research and Chief Science Officer

- (1) Member of the Audit Committee
- (2) Member of the Compensation Committee
- (3) Member of the Nominating and Corporate Governance Committee
- (4) Member of the Science and Technology Committee

Board Diversity Table (as of April 5, 2023)				
Total Number of Directors				
6				
	Female	Male	Non-Binary	Did Not Disclose Gender
Gender:				
Directors	1	5	0	0
Number of Directors Who Identify in Any of the Categories Below:				
African American or Black	0	0	0	0
Alaskan Native or Native American	0	0	0	0
Asian (other than South Asian)	0	1	0	0
South Asian	0	0	0	0
Hispanic or Latinx	0	0	0	0
Native Hawaiian or Pacific Islander	0	0	0	0
White	1	4	0	0
Two or More Races or Ethnicities	0	0	0	0
LGBTQ+	0			
Persons with Disabilities	0			

BIOGRAPHICAL INFORMATION

Oliver P. Peoples, Ph.D., has served as our President and Chief Executive Officer since October 2016. He was co-founder of Yield10. He served as our Chief Scientific Officer starting in January 2000 and was previously our Vice President of Research and Development. Dr. Peoples has served as a Director since June 1992. Before founding the Company, Dr. Peoples was a research scientist with the Department of Biology at MIT. The research carried out by Dr. Peoples at MIT established the fundamental tools and methods for engineering bacteria and plants to produce polyhydroxyalkanoates. Dr. Peoples received a Ph.D. in Molecular Biology from the University of Aberdeen, Scotland. The Board believes that Dr. Peoples provides important strategic, business and technical understanding to the Board's analysis of the Company's strategy. As Chief Executive Officer and a founder of Yield10, Dr. Peoples has unique information related to the Company's strategy, business, technology, and development programs. Dr. Peoples also contributes to the Board's understanding of the Company's strategy and commercial product platforms.

Sherri M. Brown, Ph.D., joined Yield10 as a Director in February 2020 and serves as Chair of the Science and Technology Committee. Dr. Brown previously served as a Special Commercial and Technical Advisor to the Company since December 2018. From July 2017 to June 2021, Dr. Brown served as a managing director of The Yield Lab, a global agrifood tech accelerator based in St. Louis. She previously served in several leadership positions involving the development and global commercialization of new products including biotechnology traits for canola, soybean and corn at Monsanto Company for 28 years. She served as Vice President, Science Strategy at Monsanto from 2014 to 2017. Prior to that, she was Vice President, Global Commercial Technology/Product Development, from 2008 to 2014, where she was responsible for evaluating and launching the seed and trait pipeline, including eight new biotech traits. In addition, she was Vice President, Technology, Global Corn Business (1999-2004) and Vice President, Technology, Oilseeds Business team (1998-1999). Dr. Brown serves on the board of Solasta Bio, Ltd. Dr. Brown earned a Ph.D. at Indiana University, Bloomington, IN with a major in Genetics/Molecular, Cellular and Developmental Biology. She earned a B.S. at Hope College, Holland, MI with a double major in Biology and Chemistry. The Board believes that Dr. Brown is qualified to serve as a director because of the depth of her experience and expertise in agricultural product research and development.

Richard W. Hamilton, Ph.D., joined Yield10 as a Director in March 2017 and serves as Chairman of the Nominating and Corporate Governance Committee. Since June 2017, he has served as Chief Executive Officer and as a member of the board of directors at Prosper DNA, Inc., a genetic testing company, and since June 2019, he has served as a partner at WestCap. From 2002 to 2016, Dr. Hamilton served as Chief Executive Officer and as a member of the board of directors at Ceres, Inc., after previously serving as Ceres' Chief Financial Officer from 1998 to 2002. In addition to his leadership role at Ceres, Dr. Hamilton has served on the Keck Graduate Institute Advisory Council and was a founding member of the Council for Sustainable Biomass Production. He has served on the U.S. Department of Energy's Biomass Research and Development Technical Advisory Committee and has been active in the Biotechnology Industry Organization, where he has served as Vice Chairman of the organization, chaired its Food and Agriculture Governing Board and served in other leadership roles. From 1992 to 1997, Dr. Hamilton was a Principal at Oxford Bioscience Partners, and from 1993 to 1996, he was an Associate at Boston-based MVP Ventures. From 1990 to 1991, Dr. Hamilton was a Howard Hughes Medical Institute Research Fellow at Harvard Medical School. Dr. Hamilton received a B.S. in biology from St. Lawrence University and holds a Ph.D. in molecular biology from Vanderbilt University. The Board believes that Dr. Hamilton brings extensive management, agricultural biotechnology and financial experience that will contribute to his role on the Board and as Chairman of our Nominating and Corporate Governance Committee. He also serves as an important resource on the Audit Committee.

Willie Loh, Ph.D., is an independent business consultant and previously served as a consultant to the Board beginning in April 2022 until his appointment to the Board in October 2022. From July 1995 to December 2019, Dr. Loh served in various positions at Cargill, Inc., including most recently as Vice President, Market Development of Cargill's Global Edible Oil Solutions group in North America, where he was responsible for the market development of novel oil products and led its Project Management Office. Prior to that assignment, Dr. Loh led marketing professionals at Cargill responsible for strategic planning, new business development, product management and innovation in food ingredient oils, foodservice oils and planting seed, and led the specialty oils sales team at Cargill for 10 years. Dr. Loh received his Bachelor's Degree in Biology from

Columbia University. He has a Master's Degree in Botany from Rutgers University and a Ph.D. in Microbiology from the Ohio State University. Dr. Loh also worked as a Post-Doctoral Research Fellow in Cell and Molecular Biology at the University of Virginia. Dr. Loh has published original research articles in Oil Chemistry, Oilseed Biochemistry, Microbial Physiology and Plant Molecular Genetics and has been granted more than a dozen patents in these areas. Dr. Loh's qualifications to serve on the Board include his extensive experience, knowledge and background in both agri-food business and crop genetics.

Anthony J. Sinskey, Sc.D., has served as a Director since June 1992, was a co-founder of Yield10, and serves as Chairman of the Compensation Committee. From 1966 to present, Dr. Sinskey has been on the faculty of MIT. Currently at MIT, he serves as Professor of Microbiology in the Department of Biology, as well as faculty director of the Center for Biomedical Innovation. Dr. Sinskey was a co-founder and served on the board of directors of Merrimack Pharmaceuticals, Inc. from 1999 until January 2015, and currently serves on the boards of Phenoleais USA, LLC, ABEC, Inc., Akeso Biopharma Co., Ltd., and Sweegen, Inc. Dr. Sinskey received a B.S. from the University of Illinois and a Sc.D. from MIT. The Board believes that as a faculty member of an academic institution with significant research activity in areas related to the Company's own research, Dr. Sinskey contributes to the Board his scientific knowledge and his awareness of new developments in these fields. Dr. Sinskey's involvement with other start-up and developing enterprises also makes him a valuable Board member.

Robert L. Van Nostrand is a consultant who has served as Chairman of the Board of Directors since October 2013 and as a director since October 2006. From January 2010 to July 2010, he was Executive Vice President and Chief Financial Officer of Aureon Laboratories, Inc. From July 2007 until September 2008, Mr. Van Nostrand served as Executive Vice President and Chief Financial Officer of AGI Dermatics, Inc. Mr. Van Nostrand was with OSI Pharmaceuticals, Inc. from 1986 to 2007, serving as Senior Vice President and Chief Compliance Officer from May 2005 until July 2007, and as the Vice President and Chief Financial Officer from 1996 through 2005. Prior to joining OSI, Mr. Van Nostrand was in a managerial position with Touche Ross & Co. (currently Deloitte). Mr. Van Nostrand serves on the board of directors and is Chairman of the audit committee of Intra-Cellular Therapies, Inc. (since January 2014), serves on the boards of directors of Biomedical Research Alliance of New York (BRANY) (since 2011), and served on the board of directors and as Chairman of the audit committee of Apex Bioventures, Inc. from 2006 to 2009. Mr. Van Nostrand received a B.S. in Accounting from Long Island University, New York, completed advanced management studies at the Wharton School, and he is a Certified Public Accountant. The Board of Directors believes that Mr. Van Nostrand is qualified to serve as a director and as Chairman because of the depth of his experience and expertise in financial reporting and corporate compliance, as well as his operational experience.

Lynne H. Brum, has served as Vice President, Planning and Communications since October 2016. She joined the Company in November 2011 as Vice President, Marketing and Corporate Communications. Prior to joining the Company, in 2010 to 2011 she was a communications consultant and served in various roles including as a freelance project director for Seidler Bernstein Inc. Ms. Brum served from 2007 to 2009 as an Executive Vice President at Porter Novelli Life Sciences, a subsidiary of global PR firm, Porter Novelli International. Prior to that, Ms. Brum was responsible for corporate communications, investor relations and brand management for Vertex Pharmaceuticals, Inc. from 1994 to 2007 in various positions, including Vice President of Strategic Communications. Ms. Brum was also a vice president at Feinstein Kean Healthcare and was part of the communications team at Biogen, Inc. Ms. Brum holds a bachelor's degree in biological sciences from Wellesley College and a master's degree in business administration from Simmons College's School of Management.

Charles B. Haaser has served as the Company's Vice President, Finance, Chief Accounting Officer and Treasurer since October 2016 after having served as Chief Accounting Officer and Treasurer since November 2014, and its Corporate Controller since 2008. Mr. Haaser has more than thirty-five years of experience in accounting and finance, primarily working for publicly traded U.S. companies. Before joining Yield10, Mr. Haaser was the Corporate Controller of Indevus Pharmaceuticals, Inc. from 2006 to 2008. He was the Corporate Controller and Principal Accounting Officer at ABIOMED, Inc. from 1998 to 2006 and additionally served as ABIOMED's Chief Financial Officer from 2003 to 2006. From 1997 to 1998 Mr. Haaser was Controller for Technical Communications Corporation and from 1986 to 1997 was the Director of Finance at ISI Systems, Inc. From 1984 to 1986 Mr. Haaser was an auditor in the commercial audit division of Price Waterhouse LLP (now PricewaterhouseCoopers LLP) and from 1978 to 1982, he served on active duty in the United States

Navy as a commissioned officer. Mr. Haaser received a bachelor's degree in business administration (finance) from the University of Notre Dame, an MBA from Northeastern University and a Masters of Science in Taxation from Bentley University. Mr. Haaser became a Certified Public Accountant in 1997.

Kristi D. Snell, Ph.D. was named Vice President of Research and Chief Science Officer in October 2016 in conjunction with the transition to Yield10 as the Company's core business. Dr. Snell joined the Company in 1997 and she has led the plant science research program since its inception. She has held a number of positions with the Company, including Vice President, Research and Biotechnology from July 2013 until October 2016 and President of Yield10 Oilseeds, the Company's wholly owned Canadian subsidiary, from April 2014 to present. Dr. Snell has more than 20 years of relevant experience and is an industry recognized expert in metabolic engineering of plants and microbes for the production of novel products and increased plant yield. Dr. Snell received a Bachelor of Science degree in Chemistry from the University of Michigan, and a Ph.D. in Organic Chemistry from Purdue University where she worked on metabolic engineering strategies to increase carbon flow to industrial products. Dr. Snell conducted her post-doctoral research at MIT in biochemistry and metabolic engineering.

CORPORATE GOVERNANCE AND BOARD MATTERS

Independence of Members of the Board of Directors

The Board of Directors has determined that each of the Company's non-employee directors (Dr. Brown, Dr. Hamilton, Dr. Loh, Dr. Sinskey and Mr. Van Nostrand) is independent within the meaning of the director independence standards of The Nasdaq Stock Market LLC ("Nasdaq") and the SEC, including rules under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Furthermore, the Board of Directors has determined that each member of each of the Audit, Compensation, Nominating and Corporate Governance and Science and Technology committees of the Board of Directors is independent within the meaning of the director independence standards of Nasdaq and the SEC, and that each member of the Audit Committee meets the heightened director independence standards for audit committee members as required by the SEC.

At least annually, a committee of the Board of Directors evaluates all relationships between the Company and each director in light of relevant facts and circumstances for the purpose of determining whether a material relationship exists that might signal a potential conflict of interest or otherwise interfere with such director's ability to satisfy his responsibilities as an independent director.

Executive Sessions

The Board of Directors generally holds executive sessions of the independent directors following regularly scheduled in-person meetings of the Board of Directors, at least four times a year. Executive sessions do not include any employee directors of the Company.

Board Leadership Structure

Robert L. Van Nostrand serves as our non-executive Chairman of the Board. Since March 2008, we have maintained a leadership structure with the non-executive Chairman separate from the Chief Executive Officer, although the Board of Directors has no formal policy with respect to the separation of such offices. Our Board of Directors believes that having separate offices of the Chairman and Chief Executive Officer currently functions well and is the appropriate leadership structure for our Company. While the Board of Directors may combine these offices in the future if it considers such a combination to be in the best interest of the Company, it currently intends to retain this structure. Separating these positions allows our Chief Executive Officer to focus on our day-to-day business, while allowing the Chairman of the Board to lead our Board of Directors in its fundamental role of providing advice to and independent oversight of management.

The Board of Directors' Role in Risk Oversight

The risk oversight function of the Board is carried out by both the Board and its committees. The full Board (or the appropriate Board committee in the case of risks that are under the purview of a particular committee) discusses with management our major risk exposures, their potential impact on our Company, and the steps we take to manage them. The Board regularly reviews information regarding our liquidity and operations, as well as the risks associated with each, and oversees management of risks associated with environmental, health and safety, and other compliance matters. Our Board has been highly engaged with management to assess the evolving impact of COVID-19 and the Company's response and plans, including risks associated with the safety of the Company's employees. Our Audit Committee meets periodically with management to discuss our major financial, operating and cybersecurity risk exposures and the steps, guidelines and policies taken or implemented relating to risk assessment and risk management. The Compensation Committee is responsible for overseeing the management of risks relating to our executive compensation plans and arrangements. Our Nominating and Corporate Governance Committee manages risks associated with the independence of the Board and potential conflicts of interest and our Science and Technology Committee provides oversight and guidance related to our risks associated with scientific research, including the establishment of program goals and strategy, regulatory compliance and product development and commercialization activities of Yield10.

Compensation Risk Assessment

The Compensation Committee believes that our employee compensation policies and practices are not structured to be reasonably likely to present a material adverse risk to the Company. We believe we have allocated our compensation among base salary and short- and long-term incentive compensation opportunities in such a way as to not encourage excessive or inappropriate risk-taking by our executives and other employees. We also believe our approach to goal setting and evaluation of performance results reduce the likelihood of excessive risk-taking that could harm our value or reward poor judgment.

Policies Governing Director Nominations

Director Qualifications

The Nominating and Corporate Governance Committee of the Board of Directors is responsible for reviewing, from time to time, the appropriate qualities, skills and characteristics desired of members of the Board of Directors in the context of the current make-up of the Board of Directors and selecting or recommending to the Board of Directors, nominees for election as Directors. This assessment includes consideration of the following minimum qualifications set forth in our Corporate Governance Guidelines that can be found in the corporate governance section of our website at <https://ir.yield10bio.com/corporate-governance>:

- The director shall have experience at a strategic or policymaking level in a business, government, non-profit or academic organization of high standing.
- The director shall be highly accomplished in his or her respective field, with superior credentials and recognition.
- The director shall be well regarded in the community and shall have a long-term reputation for high ethical and moral standards.
- The director shall have sufficient time and availability to devote to the affairs of the Company, particularly in light of the number of boards on which the nominee may serve.
- To the extent such director serves or has previously served on other boards, the director shall have a demonstrated history of actively contributing at board meetings.

The Nominating and Corporate Governance Committee also considers numerous other qualities, skills and characteristics when evaluating director nominees, such as:

- An understanding of and experience in the biotechnology, chemicals or agricultural industries;
- An understanding of and experience in accounting oversight, governance, finance, marketing or regulatory affairs; and
- Leadership experience with public companies or other significant organizations.

These factors and others are considered useful by the Board of Directors and are reviewed in the context of an assessment of the perceived needs of the Board of Directors at a particular point in time. While the Board does not have a formal diversity policy, the Nominating and Corporate Governance Committee seeks nominees with a broad diversity of experience, professions, skills, and backgrounds.

Process for Identifying and Evaluating Director Nominees

The Board of Directors is responsible for selecting and nominating candidates for election as directors but delegates the selection and nomination process to the Nominating and Corporate Governance Committee, with the expectation that other members of the Board of Directors or members of management will be requested to take part in the process as appropriate.

Generally, the Nominating and Corporate Governance Committee identifies candidates for director nominees in consultation with management, through the use of search firms or other advisers, through the recommendations submitted by stockholders or through such other methods as the Nominating and Corporate Governance Committee deems to be helpful to identify candidates. Once candidates have been identified, the Nominating and Corporate Governance Committee confirms that the candidates meet all of the minimum qualifications for director nominees established by the Nominating and Corporate Governance Committee. The Nominating and Corporate Governance Committee may gather information about the candidates through interviews, background checks, or any other means that the Nominating and Corporate Governance Committee deems to be helpful in the evaluation process. The Nominating and Corporate Governance Committee discusses and evaluates the qualities and skills of each candidate, taking into account the overall composition and needs of the Board. Based on the results of the evaluation process, the Nominating and Corporate Governance Committee recommends candidates for the Board's approval as director nominees for election to the Board. The Nominating and Corporate Governance Committee also recommends candidates for the Board's appointment to the committees of the Board.

Procedures for Recommendation of Nominees by Stockholders

The Nominating and Corporate Governance Committee will consider director candidates who are recommended by the stockholders of the Company. Stockholders, in submitting recommendations to the Nominating and Corporate Governance Committee for director candidates, shall follow the procedures set forth in the Company's Corporate Governance Guidelines found on our website at <http://ir.yield10bio.com/corporate-governance>. The Nominating and Corporate Governance Committee must receive any such recommendation for nomination not later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the first anniversary of the preceding year's annual meeting.

Such recommendation for nomination must be in writing and include the following:

- Name and address of the stockholder making the recommendation, as they appear on the Company's books and records, and of such record holder's beneficial owner;
- Number of shares of capital stock of the Company that are owned beneficially and held of record by such stockholder and such beneficial owner;
- Name and address of the individual recommended for consideration as a director nominee (a "Director Nominee");
- The principal occupation of the Director Nominee;
- The total number of shares of capital stock of the Company that will be voted for the Director Nominee by the stockholder making the recommendation;
- All other information relating to the recommended candidate that would be required to be disclosed in solicitations of proxies for the election of directors, or is otherwise required, in each case pursuant to Regulation 14A under the Exchange Act (including the recommended candidate's written consent to being named in the proxy statement as a nominee and to serving as a director if approved by the Board and elected); and
- A written statement from the stockholder making the recommendation stating why such recommended candidate would be able to fulfill the duties of a director.

Nominations must be sent to the attention of the Secretary of the Company by U.S. Mail (including courier or expedited delivery service) to Yield10 Bioscience, Inc., 19 Presidential Way, Woburn, MA 01801. The Secretary of the Company will promptly forward any such nominations to the Nominating and Corporate Governance Committee. Once the Nominating and Corporate Governance Committee receives the nomination of a candidate, the candidate will be evaluated and a recommendation with respect to such candidate will be delivered to the Board. Nominations not made in accordance with the foregoing policy shall be disregarded by the Nominating and Corporate Governance Committee and votes cast for such nominees shall not be counted.

Policy Governing Stockholder Communications with the Board of Directors

The Board provides to every stockholder the ability to communicate with the Board, as a whole, and with individual directors on the Board through an established process for stockholder communication (as that term is defined by the rules of the SEC). Stockholders may send such communication to the attention of the Chairman of the Board or to the attention of the individual director by U.S. Mail (including courier or expedited delivery service) to Yield10 Bioscience, Inc., 19 Presidential Way, Woburn, MA 01801. The Company will forward any such stockholder communication to the Chairman of the Board, as a representative of the Board, and/or to the director to whom the communication is addressed.

Policy Governing Director Attendance at Annual Meetings of Stockholders

Our policy is to schedule a regular meeting of the Board of Directors on the same date as the Company's annual meeting of stockholders and, accordingly, directors are encouraged to be present at our stockholder meetings. All the individuals who were directors of the Company at the time of the 2022 annual meeting of stockholders attended that meeting.

Code of Business Conduct and Ethics

The Company has adopted the Code of Business Conduct and Ethics ("Code of Business Conduct") as its "code of ethics" as defined by regulations promulgated under the Securities Act of 1933, as amended, and the Exchange Act (and in accordance with the Nasdaq requirements for a "code of conduct"), which applies to all of the Company's directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A current copy of the Code of Business Conduct is available at the Company's website at <https://ir.yield10bio.com/corporate-governance> under "Investor Relations-Corporate Governance." A copy of the Code of Business Conduct may also be obtained free of charge from the Company upon a request directed to Yield10 Bioscience, Inc., 19 Presidential Way, Woburn, MA 01801, Attention: Investor Relations. The Company will promptly disclose any substantive changes in or waivers, along with reasons for the waivers, of the Code of Business Conduct granted to its executive officers, including its principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, and its directors by posting such information on its website at <https://ir.yield10bio.com/corporate-governance>.

THE BOARD OF DIRECTORS AND ITS COMMITTEES

Board of Directors

The Board of Directors held four meetings during the year ended December 31, 2022. In addition, there were numerous conference calls held with the Board for informational updates and discussion. During the year ended December 31, 2022, no director attended fewer than 75% of the aggregate of (i) the total number of meetings of the Board and (ii) the total number of meetings held by all committees of the Board on which such director served. The Board has a standing Audit Committee, Compensation Committee, Science and Technology Committee and Nominating and Corporate Governance Committee. With the exception of the Science and Technology Committee, all of these committees have a charter that has been approved by the Board of Directors. A current copy of each charter is available on the Company's website at <https://ir.yield10bio.com/corporate-governance>. Each committee reviews the appropriateness of its charter periodically, as conditions dictate. Each committee retains the authority to engage its own advisors and consultants. The composition and responsibilities of each committee are summarized below.

Audit Committee

Mr. Van Nostrand, Dr. Hamilton and Dr. Sinskey serve on the Audit Committee. Mr. Van Nostrand is the Chairman of the Audit Committee. The Board of Directors has determined that each member of the Audit Committee is independent within the meaning of the Company's and Nasdaq's director independence standards and the SEC's heightened director independence standards for Audit Committee members as determined under the Exchange Act. The Board of Directors has also determined that each of Mr. Van Nostrand and Dr. Hamilton qualify as "audit committee financial experts" under the rules of the SEC. The Audit Committee held four meetings during the year ended December 31, 2022.

The Audit Committee is responsible for overseeing the accounting and financial reporting processes of the Company and the audits of the financial statements of the Company and exercising the responsibilities and duties set forth in its charter, including but not limited to:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing and discussing with management and the independent registered public accounting firm our annual and quarterly financial statements and related disclosures;
- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting related complaints and concerns; and
- preparing the Audit Committee report required by SEC rules to be included in our annual proxy statement.

Compensation Committee

Dr. Sinskey, Dr. Hamilton and Mr. Van Nostrand serve on the Compensation Committee. Dr. Sinskey is the Chairman of the Compensation Committee. The Board of Directors has determined that each member of the Compensation Committee is independent within the meaning of the Company's, the SEC's and Nasdaq's director independence standards. The Compensation Committee held four meetings in the year ended December 31, 2022. The Compensation Committee's responsibilities include:

- annually reviewing and approving goals and objectives relevant to compensation of our executive officers, including the Chief Executive Officer;
- evaluating the performance of our Chief Executive Officer and other executive officers in light of such goals and objectives;

- determining the compensation of our Chief Executive Officer and other executive officers;
- reviewing and approving, for the Chief Executive Officer and the other executive officers of the Company, any employment agreements, severance arrangements, and change in control agreements or provisions;
- overseeing the administration of our incentive-based and equity-based compensation plans; and
- reviewing and making recommendations to the Board with respect to director compensation.

Nominating and Corporate Governance Committee

Dr. Hamilton, Dr. Loh and Dr. Sinsky serve on the Nominating and Corporate Governance Committee. Dr. Hamilton is the Chairman of the Nominating and Corporate Governance Committee. The Board of Directors has determined that each member of the Nominating and Corporate Governance Committee is independent within the meaning of the Company's, the SEC's and Nasdaq's director independence standards. The Nominating and Corporate Governance Committee held four meetings during the year ended December 31, 2022. The Nominating and Corporate Governance Committee's responsibilities include:

- developing and recommending to the Board criteria for Board and committee membership;
- establishing procedures for identifying and evaluating director candidates, including nominees recommended by stockholders;
- identifying individuals qualified to become Board members;
- recommending to the Board the persons to be nominated for election as directors and to each of the Board's committees;
- developing succession plans for the Board;
- developing and recommending to the Board a code of business conduct and ethics and a set of corporate governance guidelines; and
- overseeing the evaluation of the Board and its committees.

Science and Technology Committee

Dr. Brown, Dr. Hamilton, Dr. Loh and Dr. Sinsky serve on the Science and Technology Committee. Dr. Brown is the Chairwoman of the Science and Technology Committee. The role of the Science and Technology Committee is to provide oversight and guidance on the scientific research, development and commercialization activities of Yield10. The Science and Technology Committee held four meetings during the year ended December 31, 2022. The duties of this committee include:

- review of individual program goals and objectives;
- product development strategy, and
- budgets and performance.

EXECUTIVE COMPENSATION

SUMMARY COMPENSATION TABLE

The following table summarizes the compensation earned during the years ended December 31, 2022 and December 31, 2021 by our principal executive officer and the two other most highly paid executive officers who were serving as executive officers on December 31, 2022 (our named executive officers):

Name and Principal Position	Year	Salary	Bonus	Stock Awards(1)	Option Awards(1)	Non-Equity Incentive Plan Compensation(2)	All Other Compensation(3)	Total
Oliver P. Peoples, Ph.D.	2022	\$ 330,750	\$ —	\$ —	\$ 182,995	\$ —	\$ 13,725	\$ 527,470
President and Chief Executive Officer	2021	\$ 315,000	\$ —	\$ 137,968	\$ 1,383,768	\$ 91,980	\$ 13,050	\$ 1,941,766
Kristi D. Snell, Ph.D.	2022	\$ 264,968	\$ —	\$ —	\$ 76,248	\$ —	\$ 13,725	\$ 354,941
Vice President, Research and Chief Scientific Officer	2021	\$ 252,350	\$ —	\$ 25,787	\$ 488,011	\$ 47,896	\$ 13,050	\$ 827,094
Lynne H. Brum	2022	\$ 264,968	\$ —	\$ —	\$ 60,998	\$ —	\$ 13,725	\$ 339,691
Vice President, Planning and Communications	2021	\$ 252,350	\$ —	\$ 22,563	\$ 269,920	\$ 41,909	\$ 13,050	\$ 599,792

- (1) The amounts listed in the “Stock Awards” and “Option Awards” columns do not represent the actual amounts paid in cash or value realized by the named executive officers. These amounts represent the aggregate grant date fair value of restricted stock units and stock option awards for each individual computed in accordance with FASB ASC Topic 718. For a discussion of valuation assumptions, see Note 10 to our [2022 Consolidated Financial Statements](#), and Note 10 to our [2021 Consolidated Financial Statements](#) included in our Annual Reports on Form 10-K for the years ended December 31, 2022 and 2021, respectively.
- (2) Non-Equity Incentive Plan Compensation represents cash bonus amounts paid based on the Compensation Committee's review of corporate performance for fiscal 2022 and 2021 pursuant to the Company's executive cash incentive performance bonus program.
- (3) Other Compensation for 2022 and 2021 includes the value of the Company's common stock contributed to the Company's 401(k) plan as a matching contribution.

Narrative Disclosure to Summary Compensation Table

Base Salaries

Base salary levels for the named executive officers were increased effective January 1, 2023, to \$343,980 for Dr. Peoples and to \$275,567 for each of Ms. Brum and Dr. Snell. Base salary levels for 2021 were increased effective January 1, 2022 to \$330,750 for Dr. Peoples and to \$264,968 for each of Ms. Brum and Dr. Snell.

Pay for Performance

Executive bonuses have historically been awarded based on overall corporate performance and to recognize and reward the teamwork of the named executive officers in advancing corporate goals, although the Compensation Committee retains the discretion to adjust individual bonus amounts in exceptional cases.

In February 2022, payments were made under the Company's executive cash incentive performance bonus program for performance during the 2021 fiscal year. The Company did not pay bonuses for performance during the 2022 fiscal year.

Long-Term Incentives

The Compensation Committee awarded long-term stock option incentives in 2022 to the executive officers and other employees. Each awarded option has an exercise price per share equal to the fair market value of common stock on the date of

the grant, vests in sixteen equal quarterly installments at a rate of 6.25% per installment over four years, and has a term of ten years from the date of grant. Named executive officers receiving these stock option awards were as follows:

Named Executive Officer	Number of Options
Oliver P. Peoples, Ph.D.	54,000
Kristi D. Snell, Ph.D.	22,500
Lynne H. Brum	18,000

OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END

The following table summarizes stock option and restricted stock unit awards held by our named executive officers at December 31, 2022:

Name	Grant Date	Number of Securities Underlying Unexercised Options(1) Exercisable	Number of Securities Underlying Unexercised Options(1) Unexercisable	Option Exercise Price(\$)	Option Expiration Date	Equity Incentive Plan Awards: Number of Units That Have Not Vested (#)	Equity Incentive Plan Awards: Market Value of Units of Stock That Have Not Vested (\$)
Oliver P. Peoples, Ph.D.	5/30/2013	29	—	\$ 4,056.00	5/30/2023	—	\$ —
	10/26/2016	4,125	—	\$ 212.00	10/26/2026	—	\$ —
	5/23/2018	8,375	—	\$ 66.00	5/23/2028	—	\$ —
	5/22/2019	5,250	750	\$ 36.00	5/22/2029	—	\$ —
	5/28/2020	53,750	32,250	\$ 5.86	5/28/2030	—	\$ —
	1/25/2021	24,500	31,500	\$ 16.49	1/25/2031	—	\$ —
	9/28/2021	31,250	68,750	\$ 6.30	9/28/2031	—	\$ —
	2/10/2022	10,125	43,875	\$ 3.83	2/10/2032	—	\$ —
	2/10/2022	—	—	\$ —	—	18,011	\$ 30,078
Lynne Brum	5/30/2013	17	—	\$ 4,056.00	5/30/2023	—	\$ —
	10/26/2016	1,251	—	\$ 212.00	10/26/2026	—	\$ —
	5/23/2018	2,500	—	\$ 66.00	5/23/2028	—	\$ —
	5/22/2019	1,312	188	\$ 36.00	5/22/2029	—	\$ —
	5/28/2020	13,125	7,875	\$ 5.86	5/28/2030	—	\$ —
	1/25/2021	5,031	6,469	\$ 16.49	1/25/2031	—	\$ —
	9/28/2021	5,625	12,375	\$ 6.30	9/28/2031	—	\$ —
	2/10/2022	3,375	14,625	\$ 3.83	2/10/2032	—	\$ —
	2/10/2022	—	—	\$ —	—	2,945	\$ 4,918
Kristi Snell, Ph.D.	2/13/2013	4	—	\$ 4,032.00	2/13/2023	—	\$ —
	7/22/2013	11	—	\$ 3,552.00	7/22/2023	—	\$ —
	2/24/2014	12	—	\$ 3,096.00	2/24/2024	—	\$ —
	10/26/2016	2,500	—	\$ 212.00	10/26/2026	—	\$ —
	5/23/2018	4,250	—	\$ 66.00	5/23/2028	—	\$ —
	5/22/2019	2,624	376	\$ 36.00	5/22/2029	—	\$ —
	5/28/2020	26,250	15,750	\$ 5.86	5/28/2030	—	\$ —
	1/25/2021	9,187	11,813	\$ 16.49	1/25/2031	—	\$ —
	9/28/2021	10,000	22,000	\$ 6.30	9/28/2031	—	\$ —
	2/10/2022	4,218	18,282	\$ 3.83	2/10/2032	—	\$ —
	2/10/2022	—	—	\$ —	—	3,366	\$ 5,621

(1) All stock options that are not yet fully exercisable vest in equal quarterly installments over a period of four years from the grant date.

Executive Employment Agreements

Oliver P. Peoples, Ph.D. The Company has an employment agreement with Dr. Oliver P. Peoples, President and Chief Executive Officer. Effective as of January 1, 2023, Dr. Peoples' salary has been set at \$343,980; his agreement includes a minimum salary of \$225,000 and provides that Dr. Peoples will be eligible to receive annual bonuses based on individual and Company performance. Pursuant to the terms of Dr. Peoples' agreement, if the Company terminates Dr. Peoples' employment without "cause" or if Dr. Peoples terminates his employment for "good reason" (each, as defined in the agreement), he will be entitled to "separation benefits" (as defined in the agreement) including a lump-sum cash payment equal to the greater of \$480,000 or 24 months' base salary and a pro rata portion of the target bonus for the year in which termination occurs, but not less than a pro rata portion of \$180,000, plus payment of COBRA premiums for 24 months, provided that he signs a separation agreement that includes an irrevocable general release and non-disparagement and confidentiality provisions in favor of the Company. If the Company terminates Dr. Peoples' employment without cause or if Dr. Peoples terminates his employment for good reason within the twenty-four month period immediately following, or the two month period immediately prior to, a "change of control" (as defined in the agreement), in addition to any accrued obligations, and subject to certain conditions, Dr. Peoples will be entitled to the separation benefits and automatic full vesting of his unvested stock options. To the extent Dr. Peoples would be subject to tax under Section 4999 of the Internal Revenue Code of 1986, as amended (the "Internal Revenue Code") as a result of company payments and benefits, the payments and benefits will be reduced if the reduction would maximize his total after-tax payments.

Lynne H. Brum. The Company has an employment agreement with Lynne H. Brum, Vice President of Planning and Communications. Effective as of January 1, 2023, Ms. Brum's salary has been set at \$275,567; her agreement includes a minimum salary of \$220,000 and provides that Ms. Brum will be eligible to receive annual bonuses based on individual and Company performance. Pursuant to the terms of Ms. Brum's agreement, if the Company terminates Ms. Brum's employment without "cause" or if Ms. Brum terminates her employment for "good reason" (each, as defined in the agreement), she will be entitled to "separation benefits" (as defined in the agreement) including a lump-sum cash payment equal to 12 months' base salary and payment of COBRA premiums for 12 months, provided that she signs a separation agreement that includes an irrevocable general release and non-disparagement and confidentiality provisions in favor of the Company. If the Company terminates Ms. Brum's employment without cause or if Ms. Brum terminates her employment for good reason within the twenty-four month period immediately following, or the two month period immediately prior to, a "change of control" (as defined in the agreement), in addition to any accrued obligations, and subject to certain conditions, Ms. Brum will be entitled to the separation benefits and automatic full vesting of her unvested stock options. To the extent Ms. Brum would be subject to tax under Section 4999 of the Internal Revenue Code as a result of company payments and benefits, the payments and benefits will be reduced if the reduction would maximize her total after-tax payments.

Kristi D. Snell, Ph.D. The Company has an employment agreement with Dr. Kristi D. Snell, Vice President of Research & Chief Science Officer. Effective as of January 1, 2023, Dr. Snell's salary has been set at \$275,567; her agreement includes a minimum salary of \$220,000 and provides that Dr. Snell will be eligible to receive annual bonuses based on individual and Company performance. Pursuant to the terms of Dr. Snell's agreement, if the Company terminates Dr. Snell's employment without "cause" or if Dr. Snell terminates her employment for "good reason" (each, as defined in the agreement), she will be entitled to "separation benefits" (as defined in the agreement) including a lump-sum cash payment equal to 12 months' base salary and payment of COBRA premiums for 12 months, provided that she signs a separation agreement that includes an irrevocable general release and non-disparagement and confidentiality provisions in favor of the Company. If the Company terminates Dr. Snell's employment without cause or if Dr. Snell terminates her employment for good reason within the twenty-four month period immediately following, or the two month period immediately prior to, a "change of control" (as defined in the agreement), in addition to any accrued obligations, and subject to certain conditions, Dr. Snell will be entitled to the separation benefits and automatic full vesting of her unvested stock options. To the extent Dr. Snell would be subject to tax under Section 4999 of the Internal Revenue Code as a result of company payments and benefits, the payments and benefits will be reduced if the reduction would maximize her total after-tax payments.

Executive Noncompetition, Nonsolicitation, Confidentiality, and Inventions Agreements

All employees named above have signed the Company's *Employee Noncompetition, Nonsolicitation, Confidentiality, and Inventions* agreement which prohibits them, during their employment by us and for a period of one year thereafter, from engaging in certain business activities which are directly or indirectly in competition with the products or services being developed, manufactured, marketed, distributed, planned, or sold by the Company during the term of their employment.

Hedging Policy

We do not have a hedging policy, but our code of conduct and insider trading policy disallows short sales and trading in our stock on a short-term basis.

Nonqualified Deferred Compensation

We do not have any nonqualified defined contribution plans or other deferred compensation plans.

PAY VERSUS PERFORMANCE

Pay Versus Performance Table

The following table shows the relationship between executive compensation actually paid (“CAP”) to Oliver P. Peoples, Ph.D., the Company’s President and Chief Executive Officer and principal executive officer (“PEO”) and our named executive officers (“NEOs”) and certain financial performance of the Company during each of the last two fiscal years ended December 31, 2022 and 2021.

Table 1

Year	Summary Compensation Table Total for PEO	Compensation Actually Paid to PEO	Average Summary Compensation Table Total for Non-PEO NEOs	Average Compensation Actually Paid to Non-PEO NEOs	Value of Initial Fixed \$100 Investment Based On Total Shareholder Return	Net Loss
(a)	(b)	(c)	(d)	(e)	(f)	(g)
2022	\$ 527,470	\$ 383,527	\$ 347,316	\$ 225,226	14.40	\$(13,566,000)
2021	\$ 1,941,766	\$ 1,615,560	\$ 713,443	\$ 690,641	81.80	\$(11,031,000)

- (1) The dollar amounts reported in column (b) (Summary Compensation Table Total for PEO) of Table 1 are the amounts of total compensation reported for Dr. Peoples for each corresponding year in the “Total” column of the Summary Compensation Table presented on page 15.
- (2) The dollar amounts reported in column (c) (Compensation Actually Paid to PEO) of Table 1 represent the amount of CAP to Dr. Peoples, as computed in accordance with SEC rules as shown in the Compensation Actually Paid tables directly below. The dollar amounts do not reflect the actual amount of cash compensation earned by or paid to Dr. Peoples during the applicable year.
- (3) The dollar amounts reported in column (d) (Average Summary Compensation Table Total for Non-PEO NEOs) of Table 1 represent the average of the amounts reported for the Company’s named executive officers (NEOs) as a group (excluding Dr. Peoples, who has served as our CEO since 2016) in the “Total” column of the Summary Compensation Table shown on page 15 for each applicable year. The names of each of the NEOs (excluding Dr. Peoples) included for purposes of calculating the average amounts in each applicable year are as follows: (i) for 2022, Kristi D. Snell, Ph.D. and Lynne H. Brum; and (ii) for 2021, Kristi D. Snell, Ph.D. and Lynne H. Brum.
- (4) The dollar amounts reported in column (e) (Average Compensation Actually Paid to Non-PEO NEOs) of Table 1 represent the average amount of CAP to the NEOs as a group (excluding Dr. Peoples), as computed in accordance with SEC rules. The dollar amounts do not reflect the actual average amount of cash compensation earned by or paid to the NEOs as a group during the applicable year.
- (5) The cumulative total shareholder return (“TSR”) amounts reported in column (f) (Value of Initial Fixed \$100 Investment Based On Total Shareholder Return) of Table 1 assumes \$100 invested in our common stock on December 31, 2020. The cumulative TSR amounts are calculated by dividing the sum of the cumulative amount of dividends for the measurement period, assuming dividend reinvestment, and the difference between the Company’s share price at the end and the beginning of the measurement period by the Company’s share price at the beginning of the measurement period. The Company did not pay dividends during the years ended December 31, 2022 and December 31, 2021.
- (6) The dollar amounts reported in column (g) (Net Loss) of Table 1 are the Company’s net loss amounts reflected in the Company’s audited financial statements for the applicable year.

Compensation Actually Paid

In accordance with SEC rules, the following adjustments were made to Dr. Peoples’ total compensation for each year to determine CAP:

Table 2 - PEO

Year	Reported Summary Compensation Table Total for PEO	Reported Value of Equity Awards	Equity Award Adjustments	Compensation Actually Paid to PEO
(a)	(b)	(c)	(d)	(e)
2022	\$ 527,470	\$ (182,995)	\$ 39,052	\$ 383,527
2021	\$ 1,941,766	\$ (1,521,736)	\$ 1,195,530	\$ 1,615,560

Table 3 - Non-PEO NEOs

Year	Reported Summary Compensation Table Total for Non-PEO NEOs	Average Reported Value of Equity Awards for Non-PEO NEOs	Average Equity Award Adjustments for Non-PEO NEOs	Average Compensation Actually Paid to Non-PEO NEOs
(a)	(b)	(c)	(d)	(e)
2022	\$ 347,316	\$ (68,623)	\$ (53,467)	\$ 225,226
2021	\$ 713,443	\$ (403,141)	\$ 380,339	\$ 690,641

- (1) The grant date fair value of equity awards in column (c) of Tables 2 and 3 (Reported Value of Equity Awards) represents the total of the amounts reported in the “Stock Awards” and “Option Awards” columns in the Summary Compensation Table for the applicable year.
- (2) The equity award adjustments in column (d) of Tables 2 and 3 (Equity Award Adjustments) include the addition (or subtraction, as applicable) of the following: (1) the year-end fair value of any equity awards granted in the applicable year that are outstanding and unvested as of the end of the year; (2) the amount of change as of the end of the applicable year (from the end of the prior fiscal year) in fair value of any awards granted in prior years that are outstanding and unvested as of the end of the applicable year; (3) for awards that are granted and vest in same applicable year, the fair value as of the vesting date; (4) for awards granted in prior years that vest in the applicable year, the amount equal to the change as of the vesting date (from the end of the prior fiscal year) in fair value; and (5) for awards granted in prior years that are determined to fail to meet the applicable vesting conditions during the applicable year, a deduction for the amount equal to the fair value at the end of the prior fiscal year. The valuation assumptions used to calculate fair values using the Black-Scholes option pricing model did not materially differ from those disclosed at the time of grant.

Adjustments to Equity Values

The amounts deducted or added in calculating the total equity award adjustments in column (d) of Tables 2 and 3, above, were derived from the amounts set forth in the following tables:

Table 4 - PEO

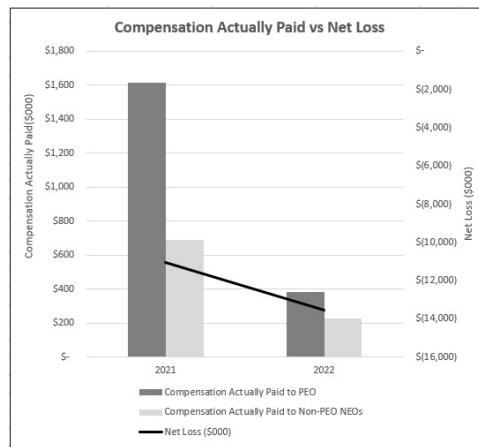
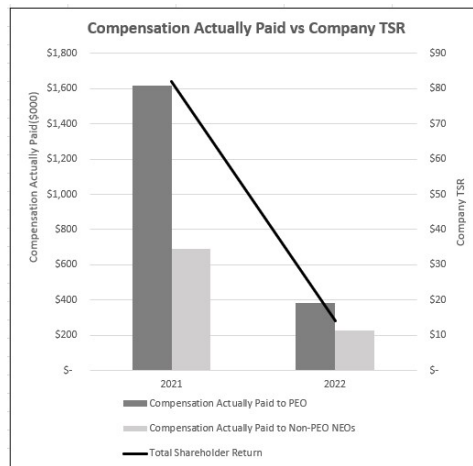
Year	Year End Fair Value of Equity Awards for PEO	Year over Year Change in Fair Value of Outstanding and Unvested Equity Awards for PEO	Fair Value as of Vesting Date of Equity Awards Granted and Vested in the Year for PEO	Year over Year Change in Fair Value of Equity Awards Granted in Prior Years that Vested in the Year for PEO	Total Equity Award Adjustments for PEO
(a)	(b)	(c)	(d)	(e)	(d)
2022	\$ 103,319	\$ (74,715)	\$ 70,578	\$ (60,130)	\$ 39,052
2021	\$ 609,005	\$ 213,881	\$ 139,489	\$ 233,155	\$ 1,195,530

Table 5 - Non-PEO NEOs

Year	Average Year End Fair Value of Equity Awards for Non-PEO NEOs	Year over Year Average Change in Fair Value of Outstanding and Unvested Equity Awards for Non-PEO NEOs	Average Fair Value as of Vesting Date of Equity Awards Granted and Vested in the Year for Non-PEO NEOs	Year over Year Average Change in Fair Value of Equity Awards Granted in Prior Years that Vested in the Year for Non-PEO NEOs	Total Average Equity Award Adjustments for Non-PEO NEOs
(a)	(b)	(c)	(d)	(e)	(h)
2022	\$ 32,737	\$ (40,610)	\$ 16,823	\$ (62,417)	(53,467)
2021	\$ 157,277	\$ 77,943	\$ 34,817	\$ 110,302	380,339

Analysis of Information Presented in the Pay Versus Performance Table

The charts below provide an illustration of the relationship between CAP and TSR and the relationship between CAP and net loss for the periods presented.



DIRECTOR COMPENSATION

The following table shows the total compensation paid or accrued during the fiscal year ended December 31, 2022 to each of our directors, other than Dr. Peoples who does not receive compensation for his service as a director.

Name	Fees Earned or Paid in Cash (\$)(1)	Stock Options (\$)(2)(3)	Total (\$)
Anthony J. Sinskey, Sc.D. (4)	\$ 62,500	\$ 12,000	\$ 74,500
Robert L. Van Nostrand(5)	\$ 72,500	\$ 12,000	\$ 84,500
Richard W. Hamilton, Ph.D. (6)	\$ 62,500	\$ 12,000	\$ 74,500
Sherri M. Brown, Ph.D.(7)	\$ 40,000	\$ 12,000	\$ 52,000
Willie Loh, Ph.D.(8)	\$ 8,519	\$ 41,367	\$ 49,886

1. These amounts represent the amount of cash fees earned for the fiscal year ended December 31, 2022. All such fees were paid during 2022. Dr. Sinskey and Mr. Van Nostrand elected to receive fully vested options to purchase shares of the Company's common stock in lieu of cash for some of their aggregate fees in 2022, in the respective amounts of \$29,111 and \$16,927, computed in accordance with FASB ASC Topic 718. For a discussion of valuation assumptions, See Note 10 to our [2022 Consolidated Financial Statements for the year ended December 31, 2022](#).
2. These amounts represent the aggregate grant date fair value of option awards for each individual computed in accordance with FASB ASC Topic 718. For a discussion of valuation assumptions, see Note 10 to our [2022 Consolidated Financial Statements for the year ended December 31, 2022](#).
3. In 2022, each of our non-employee directors who continued to serve as a director beyond our 2022 Annual Shareholder Meeting was granted an option to purchase 5,000 shares of the Company's common stock.
4. As of December 31, 2022, Dr. Sinskey held options to purchase 38,561 shares of our common stock, 29,154 of which were vested.
5. As of December 31, 2022, Mr. Van Nostrand held options to purchase 30,037 shares of our common stock, 20,630 of which were vested.
6. As of December 31, 2022, Dr. Hamilton held options to purchase 16,036 shares of our common stock, 6,629 of which were vested.
7. As of December 31, 2022, Dr. Brown held options to purchase 25,250 shares of our common stock, 12,750 of which were vested.
8. Dr. Loh joined the Board of Directors in October 2022. Prior to his appointment as a director, Dr. Loh served as a consultant to the Company from April 2022 through September 2022, and received stock options to purchase 5,000 shares of the Company's common stock in his capacity as a consultant. As of December 31, 2022, Dr. Loh held options to purchase 15,000 shares of our common stock, 625 of which were vested.

Director Compensation Policy

Under the Company's policy for compensation of non-employee directors, each non-employee member of our Board of Directors is entitled to elect to receive either cash or equity as compensation for their service to the Board and/or its committees, reflecting the following amounts for service in each specified role:

- Board service: \$30,000 per year
- Board Chairman: \$20,000 per year
- Committee service: \$7,500 per year
- Audit Committee Chair: \$15,000 per year

- Compensation Committee Chair: \$10,000 per year
- Nominating and Corporate Governance Committee Chair: \$10,000 per year
- Science and Technology Committee Chair: \$15,000 per year

In addition, renewing members of the Board are entitled to receive annual grants of options to purchase shares of the Company’s common stock from time to time as compensation for their service to the Board and/or its committees, and new members of the Board are entitled to receive such grants upon joining the Board, in amounts determined by the Compensation Committee. In the year ended December 31, 2022, renewing members of the Board received option grants of 5,000 shares effective upon the annual meeting of stockholders. For the fiscal year ending December 31, 2023, non-employee Board members will receive option grants of 5,000 shares effective upon the annual meeting of stockholders.

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table provides information about the common stock that may be issued upon the exercise of options, warrants and rights under all the Company’s existing equity compensation plans as of December 31, 2022.

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by stockholders(1)	1,006,392	\$ 12.66	—
Equity compensation plans not approved by stockholders(2)	479	\$ 3,192.00	—

- (1) Consists of the 2006 Stock Option and Incentive Plan, the 2014 Stock Option and Incentive Plan and the 2018 Stock Option and Incentive Plan. For a description of these plans, see Note 10 to the 2022 Consolidated Financial Statements included in the Company’s [Annual Report on Form 10-K for the year ended December 31, 2022](#).
- (2) Consists of a stock option granted to Mr. Shaulson, our former Chief Executive Officer and former director, as an inducement for him to join the Company. These options originally vested over a four-year period, but the remaining unvested portion became fully vested upon execution of Mr. Shaulson’s separation agreement in November 2016.

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

The charter of the Nominating and Corporate Governance Committee provides that the committee shall conduct an appropriate review of all related person transactions (including those required to be disclosed pursuant to Item 404 of Regulation S-K) for potential conflict of interest situations on an ongoing basis, and the approval of that committee shall be required for all such transactions.

Also, under the Company’s Code of Business Conduct, any transaction or relationship that reasonably could be expected to give rise to a conflict of interest involving an employee must be reported promptly to the Company’s Chief Accounting Officer, who has been designated as the Company’s Compliance Officer. The Compliance Officer may notify the Board of Directors or a committee thereof as he deems appropriate. Actual or potential conflicts of interest involving a director, executive officer or the Compliance Officer must be disclosed directly to the Chairman of the Board of Directors.

Tepha, Inc.

During 1999, the Company entered into a technology sublicense agreement with Tepha, Inc. (“Tepha”), a privately held company engaged in the development of medical products. At the time the sublicense was executed, a director of Yield10

was also the president, chief executive officer and a director of Tephra. Three other members of Yield10's board of directors also served on the board of directors of Tephra, of which one continued to serve until completion of the merger of Tephra discussed below. Yield10 received 648,149 shares of Series A Convertible Preferred Stock of Tephra ("Tephra Shares") during 2002 as consideration for outstanding license payments due to Yield10 totaling \$700,000. During 2005, the Company determined the value of the Tephra Shares was impaired resulting in their write off through a charge to other income (expense). The sublicense agreement with Tephra ended in 2016. In May 2021, the board of directors of Tephra approved and authorized the merger of Tephra with Becton Dickinson Global Holdings, Inc. and on July 26, 2021, Yield10 received cash consideration of \$700,000 in exchange for the surrender of its Tephra Shares upon the closing of the merger.

There were no other related person transactions entered into during the fiscal year ended December 31, 2022.

REPORT OF THE AUDIT COMMITTEE

The Audit Committee for the last fiscal year consisted of Mr. Van Nostrand, Chairman, Dr. Sinskey and Dr. Hamilton. The Audit Committee has the responsibility and authority described in the Yield10 Audit Committee Charter, which has been approved by the Board of Directors. A copy of the Audit Committee Charter is available on our website at <http://ir.yield10bio.com/corporate-governance>. The Board of Directors has determined that the current members of the Audit Committee meet the independence requirements set forth in Rule 10A-3(b)(1) under the Exchange Act, and the applicable rules of Nasdaq, and that Mr. Van Nostrand and Dr. Hamilton each qualify as an "Audit Committee financial expert" under the rules of the SEC. The Audit Committee oversees the accounting and financial reporting processes of the Company and its subsidiaries and the audits of the financial statements of the Company. Management has the primary responsibility for the financial statements and the reporting process, including the systems of internal controls.

In fulfilling its oversight responsibilities, the Audit Committee reviewed and discussed with both the management of the Company and RSM US LLP, the Company's independent registered public accounting firm, the audited financial statements included in the Company's [Annual Report on Form 10-K for the year ended December 31, 2022](#), including a discussion of the acceptability of the accounting principles, the reasonableness of significant judgments and the clarity of disclosures in the financial statements.

The Audit Committee has reviewed with RSM US LLP their judgments as to the application of the Company's accounting principles and such other matters as are required to be discussed with the Audit Committee by Statement on Auditing Standards No. 61, as amended (AICPA, Professional Standards, Vol. 1, AU Section 380), as adopted by the Public Company Accounting Oversight Board in Rule 3200T. In addition, the Audit Committee has received from RSM US LLP the written disclosures and the letter required by applicable requirements of the Public Company Accounting Oversight Board regarding RSM US LLP's communications with the Audit Committee concerning independence, has discussed with RSM US LLP their independence from management and the Company, and has considered the compatibility with RSM US LLP's independence as auditors of any non-audit services performed for the Company by RSM US LLP.

The Audit Committee discussed with RSM US LLP the overall scope and plans for their audit. The Audit Committee met with RSM US LLP, with and without management present, to discuss the results of their examinations and their evaluations of the Company's financial reporting.

In reliance on the reviews and discussions referred to above, the Audit Committee recommended to the Board of Directors that the Company's audited financial statements be included in the [Annual Report on Form 10-K for the year ended December 31, 2022](#) and filed with the SEC, and the Board of Directors approved such inclusion.

Respectfully submitted by the Audit Committee,

Robert L. Van Nostrand, Chairman
Anthony Sinskey, Ph.D.
Richard Hamilton, Ph.D.

INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS

The Audit Committee of the Board of Directors selected the firm of RSM US LLP, an independent registered public accounting firm, to serve as independent auditors for the fiscal year ended December 31, 2023.

Fees

The following sets forth the aggregate fees billed by RSM US LLP, to the Company for the years ended December 31, 2022 and December 31, 2021:

Audit Fees

Fees related to audit services were approximately \$206,000 and \$177,000 for the years ended December 31, 2022 and 2021, respectively, and relate to the year-end audits of the Company's financial statements for those years.

Audit Related Fees

Audit Related Fees were approximately \$65,000 for the year ended December 31, 2021, and relate to services associated with registration statements and securities offerings.. RSM US LLP did not bill the Company for audit related fees, for the year ended December 31, 2022.

Tax Fees

Tax fees are estimated to be approximately \$52,500 for the fiscal year ended December 31, 2022 and included services to advise on the Company's tax net operating loss and tax credit utilization limitations under Section 382 of the Internal Revenue Code of 1986. Tax fees for the fiscal year ended December 31, 2021 were approximately \$90,500.

All Other Fees

RSM US LLP billed no other fees for the years ended December 31, 2022 and December 31, 2021.

Pre-Approval Policy of the Audit Committee

All the services performed by RSM US LLP for the fiscal year ended December 31, 2022 were pre-approved in accordance with the pre-approval policy set forth in the Audit Committee Charter. The Audit Committee pre-approves all audit services and permitted non-audit services performed or proposed to be undertaken by the independent registered public accounting firm (including the fees and terms thereof), except where such services are determined to be *de minimis* under the Exchange Act, giving particular attention to the relationship between the types of services provided and the independent registered public accounting firm's independence.

PROPOSAL 1

ELECTION OF DIRECTORS

Nominees

The Company's Board of Directors currently consists of six (6) members. The Company's amended and restated certificate of incorporation divides the Board of Directors into three classes. One class is elected each year for a term of three years and until their successors have been duly elected and qualified, or until their earlier death, resignation or removal. The Board of Directors, upon the recommendation of the Nominating and Corporate Governance Committee, has nominated Oliver P. Peoples, Ph.D. and Willie Loh, Ph.D., and recommends that they be elected to the Board of Directors as a Class II Directors, to hold office until the annual meeting of the stockholders to be held in the year 2026 and until their successors have been duly elected and qualified or until their earlier death, resignation, or removal. The Board of Directors is also composed of (i) two Class III Directors (Anthony J. Sinskey, Sc.D. and Richard W. Hamilton, Ph.D.), whose terms expire at the 2024 annual meeting of stockholders and (ii) two Class I Directors (Robert L. Van Nostrand and Sherri M. Brown, Ph.D.), whose terms expire at the 2025 annual meeting of stockholders.

Unless authority to vote for any of these nominees is withheld, the shares represented by the enclosed proxy will be voted **FOR** the election of Oliver P. Peoples, Ph.D. and Willie Loh, Ph.D. as directors. In the event that either nominee becomes unable or unwilling to serve, the shares represented by the enclosed proxy will be voted for the election of such other person as the Board of Directors may recommend in such nominee's place. We have no reason to believe that either nominee will be unable or unwilling to serve as a director.

A plurality of the shares voted "FOR" each nominee at the Annual Meeting is required to elect each nominee as a director.

Recommendation of the Board

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR" THE ELECTION OF OLIVER P. PEOPLES, PH.D. AND WILLIE LOH, PH.D., AS DIRECTORS.

PROPOSAL 2

APPROVAL OF AN AMENDMENT TO THE COMPANY'S 2018 STOCK OPTION AND INCENTIVE PLAN

General

Our Board of Directors is requesting that our stockholders approve an amendment to our 2018 Plan, which amendment was approved by the Board of Directors on February 10, 2023. If this proposal is approved, the number of shares authorized for issuance of awards under the 2018 Plan will be increased by an additional 500,000 shares.

Our 2018 Plan was approved by our Board of Directors and stockholders in 2018 and amended in 2020. By its terms, the 2018 Plan may be amended by the Compensation Committee provided that any amendment that the Compensation Committee determines requires stockholder approval is subject to receiving such stockholder approval. Approval by our stockholders is required by the listing rules of the Nasdaq Stock Market. In addition, stockholder approval is required in order to ensure favorable federal income tax treatment for grants of incentive stock options under Section 422 of the Internal Revenue Code of 1986, as amended (the "Internal Revenue Code").

As of March 28, 2023, a total of 66,830 shares of common stock remain available for issuance under the 2018 Plan; options to purchase a total of 1,143,500 shares of common stock remain outstanding. No restricted stock units were outstanding as of that date. As of March 28, 2023, a total of 90,112 shares of our common stock have been issued upon the exercise of options and vesting of other equity awards granted under the 2018 Plan. In addition, as of March 28, 2023, options to purchase 145 shares of common stock are outstanding under our 2006 Stock Option and Incentive Plan (the "2006 Plan") and options to purchase 15,990 shares of common stock are outstanding under our 2014 Stock Option and Incentive Plan (the "2014 Plan").

No further shares are available for issuance under the 2006 Plan or the 2014 Plan. Shares may be transferred into the 2018 Plan from previously issued options that are canceled or expire under the 2006 Plan and the 2014 Plan.

The 2018 Plan, as amended, includes the following provisions:

- *No Liberal Share Recycling*: Shares that are withheld to satisfy any tax withholding obligation related to any stock award or for payment of the exercise price or purchase price of any stock award under the 2018 Plan will not again become available for issuance under the 2018 Plan;
- *No Discounted Options or Stock Appreciation Rights*: Stock options and stock appreciation rights may not be granted with exercise prices lower than the fair market value of the underlying shares on the grant date except to replace equity awards due to a corporate transaction;
- *No Repricing without Stockholder Approval*: Other than in connection with corporate reorganizations or restructurings, at any time when the exercise price of a stock option is above the fair market value of a share, the Company will not, without stockholder approval, reduce the exercise price of such stock option and will not exchange such stock option for a new award with a lower (or no) purchase price or for cash;
- *No Transferability*: Equity awards generally may not be transferred, except by will or the laws of descent and distribution, unless approved by the Board of Directors and/or Compensation Committee; and
- *No Dividends*: The 2018 Plan prohibits, for all award types, the payment of dividends or dividend equivalents before the vesting of the underlying award but permits accrual of such dividends or dividend equivalents to be paid upon vesting.

Reasons for Amendment of the 2018 Plan

Our Board of Directors, the Compensation Committee and management believe that the effective use of stock-based long-term incentive compensation is vital to our ability to achieve strong performance in the future. The 2018 Plan will maintain and enhance the key policies and practices adopted by our management and Board of Directors to align employee and stockholder interests and to link compensation to Company performance. In addition, our future success depends, in large part, upon our ability to maintain a competitive position in attracting, retaining and motivating key personnel. We believe that the increase in the number of shares available for issuance under our 2018 Plan is essential to permit our management to continue to provide long-term, equity-based incentives to present and future key employees, consultants and directors. Our Board of Directors believes that the number of shares currently remaining available for issuance pursuant to future awards under the 2018 Plan (as of March 28, 2023) is not sufficient for future granting needs. Our Board of Directors currently believes that if the amendment to the 2018 Plan is approved by stockholders, the 566,830 shares available for issuance under the 2018 Plan will result in an adequate number of shares of common stock being available for future awards under the 2018 Plan for one additional year following the current year.

The following is a brief summary of the 2018 Plan, as amended. This summary is qualified in its entirety by reference to the text of the 2018 Plan, a copy of which is attached as Appendix A to this proxy statement.

Summary of Material Features of the 2018 Plan

Eligibility. The 2018 Plan allows us, under the direction of our Compensation Committee, to make grants of stock options, restricted and unrestricted stock awards and other stock-based awards to employees, consultants and directors who, in the opinion of the Board of Directors and/or Compensation Committee, are in a position to make a significant contribution to our long-term success. All employees, directors and consultants of the Company and its affiliates are eligible to participate in the 2018 Plan. As of March 28, 2023, there were approximately 43 individuals eligible to participate in the 2018 Plan.

Shares Available for Issuance. The 2018 Plan provides for the issuance of up to 66,830 shares of our common stock remaining available for issuance as of March 28, 2023, plus the shares to be added in the future pursuant to the annual increase and a number of additional shares (which shall be no more than 16,135 in total) available to be issued to the extent that awards outstanding under the 2014 Plan or 2006 Plan are canceled or expire on or after the date of the Annual Meeting. If this Proposal 2 is approved by our stockholders, the 2018 Plan will provide for the issuance of up to 500,000 additional shares. Generally, shares of common stock reserved for awards under the 2018 Plan that lapse or are canceled (other than by exercise)

will be added back to the share reserve available for future awards. However, shares of common stock tendered in payment for an award or shares of common stock withheld for taxes are not available again for future awards. In addition, shares repurchased by the Company with the proceeds of the option exercise price may not be reissued under the 2018 Plan.

Stock Options. Stock options granted under the 2018 Plan may either be incentive stock options, which are intended to satisfy the requirements of Section 422 of the Internal Revenue Code, or non-qualified stock options, which are not intended to meet those requirements. Incentive stock options may be granted to U.S. employees of the Company and its affiliates. Non-qualified options may be granted to U.S. and Canadian employees, directors and consultants of the Company and its affiliates and the term of the option may not be longer than ten years. The exercise price of a stock option may not be less than 100% of the fair market value of our common stock on the date of grant. If an incentive stock option is granted to an individual who owns more than 10% of the combined voting power of all classes of our capital stock, the exercise price may not be less than 110% of the fair market value of our common stock on the date of grant and the term of the option may not be longer than five years.

Award agreements for stock options include rules for exercise of the stock options after termination of service. Options may not be exercised unless they are vested, and no option may be exercised after the end of the term set forth in the award agreement. Generally, stock options will be exercisable for three months after termination of service for any reason other than death or total and permanent disability, and for 12 months after termination of service on account of death or total and permanent disability but will not be exercisable if the termination of service was due to cause.

Performance-Based Awards. Performance-based awards are stock-based awards that vest upon the grantee's attainment of certain performance goals. If the vesting is achieved, the grantee shall be entitled to receive such number of shares specified in his or her award agreement. Dividend equivalents may accrue but shall not be paid prior to and shall be paid only to the extent that the grantee receives the shares upon vesting.

Other Stock-Based Awards. The 2018 Plan also authorizes the grant of other types of stock-based compensation including, but not limited to, stock appreciation rights, phantom stock awards, and stock unit awards. Our Board of Directors or an authorized committee may award such stock-based awards subject to such conditions and restrictions as it may determine. These conditions and restrictions may include continued employment with the Company through a specified restricted period or achievement of one or more performance goals.

Plan Administration. In accordance with the terms of the 2018 Plan, our Board of Directors administers the plan, except to the extent that the Board delegates such authority to our Compensation Committee. In accordance with the provisions of the 2018 Plan, our Board of Directors and/or Compensation Committee determines the terms of awards, including:

- which employees, directors and consultants will be granted awards;
- the number of shares subject to each award;
- any adjustments in the performance goals included in performance-based awards; and
- other terms and conditions upon which each award may be granted in accordance with the 2018 Plan.

In addition, our Board of Directors may, in its discretion, amend any term or condition of an outstanding award provided (i) such term or condition as amended is permitted by our 2018 Plan, and (ii) any such amendment shall be made only with the consent of the participant to whom such award was made, if the amendment is adverse to the participant unless such amendment is required by applicable law or necessary to preserve the economic value of such award; and provided, further, that, without the prior approval of our stockholders, options and stock appreciation rights are not repriced, replaced or regranted through cancellation or by lowering the exercise price of a previously granted award.

Stock Dividends and Stock Splits. If our common stock shall be subdivided or combined into a greater or smaller number of shares or if we issue any shares of common stock as a stock dividend, the number of shares of our common stock deliverable upon exercise of an option issued or upon issuance of an award shall be appropriately increased or decreased proportionately, and appropriate adjustments shall be made in the purchase price per share and performance goals applicable to performance based awards, if any, to reflect such subdivision, combination or stock dividend.

Other Dividends. Dividends (other than stock dividends as described above) may accrue but are not payable prior to the time, and only to the extent that, restrictions or rights to reacquire shares subject to awards have lapsed.

Corporate Transactions. Upon a merger or other reorganization event, our Board of Directors, may, in its sole discretion, take any one or more of the following actions pursuant to our 2018 Plan, as to some or all outstanding awards:

- provide that all outstanding options shall be assumed or substituted by the successor corporation, or, in the event that such merger also constitutes a Change of Control (as defined in the 2018 Plan) that does not allow for the continuation of such options, provide that all outstanding awards shall become fully exercisable, vested and/or non-forfeitable as of the effective time of the merger;
- upon written notice to a participant, provide that the participant's unexercised options will terminate immediately prior to the consummation of such transaction unless exercised by the participant;
- in the event of a merger pursuant to which holders of our common stock will receive a cash payment for each share surrendered in the merger, make or provide for a cash payment to the participants equal to the difference between the merger price times the number of shares of our common stock subject to such outstanding options, and the aggregate exercise price of all such outstanding options, in exchange for the termination of such options; and
- with respect to stock grants and in lieu of any of the foregoing, our Board of Directors or an authorized committee may provide that, upon consummation of the transaction, each outstanding stock grant shall be terminated in exchange for payment of an amount equal to the consideration payable upon consummation of such transaction to a holder of the number of shares of Common Stock comprising such award (to the extent such stock grant is no longer subject to any forfeiture or repurchase rights then in effect or, at the discretion of our Board of Directors or an authorized committee, all forfeiture and repurchase rights being waived upon such transaction).

Amendment and Termination. The 2018 Plan may be amended by our stockholders. It may also be amended by our Board of Directors and/or Compensation Committee, provided that any amendment approved by our Board of Directors and/or Compensation Committee which is of a scope that requires stockholder approval as required by (i) the rules of the Nasdaq, (ii) in order to ensure favorable federal income tax treatment for any incentive stock options under Internal Revenue Code Section 422, or (iii) for any other reason, is subject to obtaining such stockholder approval. In addition, other than in connection with stock dividends, stock splits, recapitalizations or reorganizations, the Board of Directors and/or Compensation Committee may not without stockholder approval reduce the exercise price of or cancel any outstanding option in exchange for a replacement option having a lower exercise price or for any other equity award or for cash. Further, the Board of Directors and/or Compensation Committee may not take any other action that is considered a direct or indirect "repricing" for purposes of Nasdaq's stockholder approval rules, including any other action that is treated as a repricing under generally accepted accounting principles. No such action taken by the Board of Directors and/or Compensation Committee may adversely affect any rights under any outstanding award without the holder's consent unless such amendment is required by applicable law or necessary to preserve the economic value of such award.

Duration of Plan. The 2018 Plan will expire by its terms on April 4, 2028. No awards may be made after termination of the 2018 Plan, although previously granted awards may continue beyond the termination date in accordance with the terms.

Federal Income Tax Considerations

The material federal income tax consequences of the issuance and exercise of stock options and other awards under the 2018 Plan, based on the current provisions of the Internal Revenue Code and regulations, are as follows. Changes to these laws could alter the tax consequences described below. This summary assumes that all awards granted under the 2018 Plan are exempt from or comply with, the rules under Section 409A of the Internal Revenue Code related to nonqualified deferred compensation.

Incentive Stock Options:

Incentive stock options are intended to qualify for treatment under Section 422 of the Internal Revenue Code. An incentive stock option does not result in taxable income to the optionee or deduction to us at the time it is granted or exercised, provided that no disposition is made by the optionee of the shares acquired pursuant to the option within two years after the date of grant of the option nor within one year after the date of issuance of shares to the optionee (referred to as the "ISO holding period"). However, the difference between the fair market value of the shares on the date of exercise and the option price will be an item of tax preference includible in "alternative minimum taxable income" of the optionee. Upon disposition of the shares after the expiration of the ISO holding period, the optionee will generally recognize long-term capital gain or loss based on the difference between the disposition proceeds and the option price paid for the shares. If the shares are disposed of prior to the expiration of the ISO holding period, the optionee generally will recognize taxable compensation, and we will have a corresponding deduction, in the year of the disposition, equal to the excess of the fair market value of the shares on the date of exercise of the option over the option price. Any additional gain realized on the disposition will normally constitute capital gain. If the amount realized upon such a disqualifying disposition is less than fair market value of the shares on the date of exercise, the amount of compensation income will be limited to the excess of the amount realized over the optionee's adjusted basis in the shares.

Non-Qualified Options:

Options otherwise qualifying as incentive stock options, to the extent the aggregate fair market value of shares with respect to which such options are first exercisable by an individual in any calendar year exceeds \$100,000, and options designated as non-qualified options will be treated as options that are not incentive stock options. A non-qualified option ordinarily will not result in income to the optionee or deduction to us at the time of grant. The optionee will recognize compensation income at the time of exercise of such non-qualified option in an amount equal to the excess of the then value of the shares over the option price per share. Such compensation income of optionees may be subject to withholding taxes, and a deduction may then be allowable to us in an amount equal to the optionee's compensation income. An optionee's initial basis in shares so acquired will be the amount paid on exercise of the non-qualified option plus the amount of any corresponding compensation income. Any gain or loss as a result of a subsequent disposition of the shares so acquired will be capital gain or loss.

Stock Grants:

With respect to stock grants under the 2018 Plan that result in the issuance of shares that are either not restricted as to transferability or not subject to a substantial risk of forfeiture, the grantee must generally recognize ordinary income equal to the fair market value of shares received. Thus, deferral of the time of issuance will generally result in the deferral of the time the grantee will be liable for income taxes with respect to such issuance. We generally will be entitled to a deduction in an amount equal to the ordinary income recognized by the grantee. With respect to stock grants involving the issuance of shares that are restricted as to transferability and subject to a substantial risk of forfeiture, the grantee must generally recognize ordinary income equal to the fair market value of the shares received at the first time the shares become transferable or are not subject to a substantial risk of forfeiture, whichever occurs earlier. A grantee may elect to be taxed at the time of receipt of shares rather than upon lapse of restrictions on transferability or substantial risk of forfeiture, but if the grantee subsequently forfeits such shares, the grantee would not be entitled to any tax deduction, including as a capital loss, for the value of the shares on which he previously paid tax. The grantee must file such election with the Internal Revenue Service within 30 days of the receipt of the shares. We generally will be entitled to a deduction in an amount equal to the ordinary income recognized by the grantee.

Stock Units:

The grantee recognizes no income until the issuance of the shares. At that time, the grantee must generally recognize ordinary income equal to the fair market value of the shares received. We generally will be entitled to a deduction in an amount equal to the ordinary income recognized by the grantee.

Plan Benefits

Since the adoption of the 2018 Plan through March 28, 2023, we have granted the following awards under the 2018 Plan to the individuals and groups listed below. In all cases, the securities underlying such stock options were shares of our Common Stock.

Name and Position	Number of shares subject to Stock Options and RSUs
Named Executive Officers	
Oliver P. Peoples, Ph.D. President, Chief Executive Officer and Director	428,827
Lynne H. Brum Vice President, Planning and Communications	102,483
Kristi D. Snell, Ph.D. Vice President, Research and Chief Scientific Officer	167,874
All current executive officers as a group	801,238
All current directors who are not executive officers, as a group	123,080
All employees, including all current officers who are not executive officers	308,976

New Plan Benefits

The amounts of future grants under the 2018 Plan are not determinable and will be granted at the sole discretion of the Compensation Committee or other delegated persons. We cannot determine at this time either the persons who will receive such awards under the 2018 Plan or the amount or types of any such awards.

On March 28, 2023, the closing price per share of our common stock was \$2.64 as reported by the Nasdaq Stock Market.

The affirmative vote of a majority of the shares of common stock cast by the stockholders present in person or represented by proxy at the Annual Meeting is required to approve the amendment of the 2018 Plan.

Recommendation of the Board

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE “FOR” THE AMENDMENT TO THE COMPANY’S 2018 STOCK OPTION AND INCENTIVE PLAN.

PROPOSAL 3

RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Our Audit Committee is responsible for the appointment, compensation, retention and oversight of the work of our independent registered public accounting firm. Although stockholder approval of the selection of an independent registered public accounting firm is not required by law, our Board of Directors believes that it is advisable to give stockholders an opportunity to ratify this selection. Our Audit Committee has appointed RSM US LLP to perform the independent audit, review and attestation services with respect to our financial statements for the fiscal year ending December 31, 2023.

In deciding to appoint RSM US LLP, the Audit Committee reviewed auditor independence issues and existing commercial relationships with RSM US LLP and concluded that RSM US LLP has no commercial relationship with the Company that would impair its independence for the fiscal year ending December 31, 2023.

If this proposal is not approved at the Annual Meeting, our Audit Committee will reconsider the selection of RSM US LLP for the ensuing fiscal year but may determine that continued retention of RSM US LLP is in our Company's and our stockholders' best interests. Even if the appointment is ratified, the Audit Committee, in its discretion, may direct the appointment of a different independent registered public accounting firm at any time during the year if it determines that such a change would be in our Company's and our stockholders' best interests.

We expect representatives of RSM US LLP to be present at the Annual Meeting. They will have the opportunity to make a statement if they desire to do so and will also be available to respond to appropriate questions from stockholders.

The affirmative vote of a majority of the shares of common stock cast by the stockholders present at the meeting or represented by proxy at the Annual Meeting is required to ratify the selection of RSM US LLP as our independent registered public accounting firm for the year ending December 31, 2023.

Recommendation of the Board

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR" RATIFICATION OF THE APPOINTMENT OF RSM US LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE YEAR ENDING DECEMBER 31, 2023.

OTHER MATTERS

The Board of Directors knows of no other matters to be brought before the Annual Meeting. If any other matters are properly brought before the Annual Meeting, the persons appointed in the accompanying proxy intend to vote the shares represented thereby in accordance with their best judgment on such matters, under applicable laws.

STOCKHOLDER PROPOSALS AND NOMINATIONS FOR DIRECTOR

To be considered for inclusion in the proxy statement relating to our 2024 Annual Meeting of Stockholders, we must receive stockholder proposals (other than for director nominations) no later than December 12, 2023. To be considered for presentation at the 2024 Annual Meeting, although not included in the proxy statement, proposals (including director nominations that are not requested to be included in our proxy statement) must be received no earlier than January 26, 2024, nor later than February 25, 2024, unless our 2024 annual meeting of stockholders is scheduled to take place before April 25, 2024 or after July 24, 2024. In addition to satisfying the foregoing advance notice requirements, to comply with the universal proxy rules under the Exchange Act, stockholders who intend to solicit proxies in support of director nominees other than the Company's nominees must follow the requirements set forth in Rule 14a-19 as promulgated under the Exchange Act.

Proposals that are not received in a timely manner or in accordance with applicable law will not be voted on at the 2024 Annual Meeting. If a proposal is received on time, the proxies that management solicits for the meeting may still exercise discretionary voting authority on the proposal under circumstances consistent with the proxy rules of the SEC. All stockholder proposals should be marked for the attention of Secretary, Yield10 Bioscience, Inc., 19 Presidential Way, Woburn, MA 01801.

Woburn, Massachusetts
April 5, 2023

EXPENSES AND SOLICITATION

The cost of solicitation of proxies will be borne by the Company and, in addition to soliciting stockholders by mail through its regular employees, the Company may request banks, brokers and other custodians, nominees and fiduciaries to solicit their customers who have stock of the Company registered in the names of a nominee and, if so, will reimburse such banks, brokers and other custodians, nominees and fiduciaries for their reasonable out-of-pocket costs. Solicitation by officers and employees of the Company may also be made of some stockholders at the meeting or by mail, telephone or e-mail following the original solicitation. If Yield10 does retain a proxy solicitation firm, Yield10 would pay such firm's customary fees and expenses, which fees would be expected not to exceed \$15,000 plus expenses.

APPENDIX A

YIELD10 BIOSCIENCE, INC. AMENDED AND RESTATED 2018 STOCK OPTION AND INCENTIVE PLAN

1. DEFINITIONS.

Unless otherwise specified or unless the context otherwise requires, the following terms, as used in this Yield10 Bioscience, Inc. 2018 Stock Option and Incentive Plan, have the following meanings:

Administrator means the Board of Directors, unless it has delegated power to act on its behalf to the Committee, in which case the term Administrator means the Committee.

Affiliate means a corporation which, for purposes of Section 424 of the Code, is a parent or subsidiary of the Company, direct or indirect.

Agreement means a written or electronic document setting forth the terms of a Stock Right delivered pursuant to the Plan in such form as the Administrator shall approve.

Board of Directors means the Board of Directors of the Company.

Cause means, with respect to a Participant (a) dishonesty with respect to the Company or any Affiliate, (b) insubordination, substantial malfeasance or non-feasance of duty, (c) unauthorized disclosure of confidential information, (d) breach by a Participant of any provision of any employment, consulting, advisory, nondisclosure, non-competition or similar agreement between the Participant and the Company or any Affiliate, and (e) conduct substantially prejudicial to the business of the Company or any Affiliate; provided, however, that any provision in an agreement between a Participant and the Company or an Affiliate, which contains a conflicting definition of Cause for termination and which is in effect at the time of such termination, shall supersede this definition with respect to that Participant. The determination of the Administrator as to the existence of Cause will be conclusive on the Participant and the Company.

Change of Control means the occurrence of any of the following events:

Ownership. Any "Person" (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) becomes the "Beneficial Owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Company representing 50% or more of the total voting power represented by the Company's then outstanding voting securities (excluding for this purpose any such voting securities held by the Company or its Affiliates or by any employee benefit plan of the Company) pursuant to a transaction or a series of related transactions which the Board of Directors does not approve; or

Merger/Sale of Assets. (A) A merger or consolidation of the Company whether or not approved by the Board of Directors, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or the parent of such corporation) more than 50% of the total voting power represented by the voting securities of the Company or such surviving entity or parent of such corporation, as the case may be, outstanding immediately after such merger or consolidation; or (B) the sale or disposition by the Company of all or substantially all of the Company's assets in a transaction requiring stockholder approval; or

Change in Board Composition. A change in the composition of the Board of Directors, as a result of which fewer than a majority of the directors are Incumbent Directors. "Incumbent Directors" shall mean directors who either (A) are directors of the Company as of May 23, 2018, or (B) are elected, or nominated for election, to the Board of Directors with the affirmative votes of at least a majority of the Incumbent Directors at the time of such election or nomination (but shall not include an individual whose election or

nomination is in connection with an actual or threatened proxy contest relating to the election of directors to the Company);

provided, that if any payment or benefit payable hereunder upon or following a Change of Control would be required to comply with the limitations of Section 409A(a)(2)(A)(v) of the Code in order to avoid an additional tax under Section 409A of the Code, such payment or benefit shall be made only if such Change in Control constitutes a change in ownership or control of the Company, or a change in ownership of the Company's assets in accordance with Section 409A of the Code.

Code means the United States Internal Revenue Code of 1986, as amended including any successor statute, regulation and guidance thereto.

Committee means the committee of the Board of Directors to which the Board of Directors has delegated power to act under or pursuant to the provisions of the Plan.

common stock means shares of the Company's common stock, \$0.01 par value per share.

Company means Yield10 Bioscience, Inc., a Delaware corporation.

Consultant means any natural person who is an advisor or consultant who provides bona fide services to the Company or its Affiliates, provided that such services are not in connection with the offer or sale of securities in a capital raising transaction, and do not directly or indirectly promote or maintain a market for the Company's or its Affiliates' securities.

Disability or Disabled means permanent and total disability as defined in Section 22(e)(3) of the Code.

Employee means any employee of the Company or of an Affiliate (including, without limitation, an employee who is also serving as an officer or director of the Company or of an Affiliate), designated by the Administrator to be eligible to be granted one or more Stock Rights under the Plan.

Exchange Act means the United States Securities Exchange Act of 1934, as amended.

Fair Market Value of a Share of common stock means:

If the common stock is listed on a national securities exchange or traded in the over-the-counter market and sales prices are regularly reported for the common stock, the closing or, if not applicable, the last price of the common stock on the composite tape or other comparable reporting system for the trading day on the applicable date and if such applicable date is not a trading day, the last market trading day prior to such date;

If the common stock is not traded on a national securities exchange but is traded on the over-the-counter market, if sales prices are not regularly reported for the common stock for the trading day referred to in clause (1), and if bid and asked prices for the common stock are regularly reported, the mean between the bid and the asked price for the common stock at the close of trading in the over-the-counter market for the trading day on which common stock was traded on the applicable date and if such applicable date is not a trading day, the last market trading day prior to such date; and

If the common stock is neither listed on a national securities exchange nor traded in the over-the-counter market, such value as the Administrator, in good faith, shall determine in compliance with applicable laws.

ISO means a stock option intended to qualify as an incentive stock option under Section 422 of the Code.

Non-Qualified Option means a stock option which is not intended to qualify as an ISO.

Option means an ISO or Non-Qualified Option granted under the Plan.

Participant means an Employee, director or Consultant of the Company or an Affiliate to whom one or more Stock Rights are granted under the Plan. As used herein, "Participant" shall include "Participant's Survivors" where the context requires.

Performance-Based Award means a Stock Grant or Stock-Based Award which vests based on the attainment of written Performance Goals as set forth in Paragraph 9 hereof.

Performance Goals means performance goals determined by the Committee in its sole discretion and set forth in an Agreement. The satisfaction of Performance Goals shall be subject to certification by the Committee. The Committee has the authority to take appropriate action with respect to the Performance Goals (including, without limitation, making adjustments to the Performance Goals or determining the satisfaction of the Performance Goals, in each case, in connection with a Corporate Transaction) provided that any such action does not otherwise violate the terms of the Plan.

Plan means this Yield10 Bioscience, Inc. 2018 Stock Option and Incentive Plan as amended and restated.

Securities Act means the Securities Act of 1933, as amended.

Shares means shares of the common stock as to which Stock Rights have been or may be granted under the Plan or any shares of capital stock into which the Shares are changed or for which they are exchanged within the provisions of Paragraph 3 of the Plan. The Shares issued under the Plan may be authorized and unissued shares or shares held by the Company in its treasury, or both.

Stock-Based Award means a grant by the Company under the Plan of an equity award or an equity based award which is not an Option or a Stock Grant.

Stock Grant means a grant by the Company of Shares under the Plan.

Stock Right means a right to Shares or the value of Shares of the Company granted pursuant to the Plan -- an ISO, a Non-Qualified Option, a Stock Grant or a Stock-Based Award.

Survivor means a deceased Participant's legal representatives and/or any person or persons who acquired the Participant's rights to a Stock Right by will or by the laws of descent and distribution.

2. PURPOSES OF THE PLAN.

The Plan is intended to encourage ownership of Shares by Employees and directors of and certain Consultants to the Company and its Affiliates in order to attract and retain such people, to induce them to work for the benefit of the Company or of an Affiliate and to provide additional incentive for them to promote the success of the Company or of an Affiliate. The Plan provides for the granting of ISOs, Non-Qualified Options, Stock Grants and Stock-Based Awards.

3. SHARES SUBJECT TO THE PLAN.

(a) Commencing on May 25, 2023, the number of Shares which may be issued from time to time pursuant to this Plan shall be the sum of: (i) 566,830 shares of common stock and (ii) any shares of common stock that are represented by awards granted under the Company's 2006 Stock Option and Incentive Plan and 2014 Stock Option and Incentive Plan that are forfeited, expire or are canceled without delivery of shares of common stock or which result in the forfeiture of shares of common stock back to the Company on or after May 25, 2023, or the equivalent of such number of Shares after the Administrator, in its sole discretion, has interpreted the effect of any stock split, stock dividend, combination, recapitalization or similar transaction in accordance with Paragraph 25 of this Plan;

provided, however, that as of May 25, 2023 no more than 16,135 shares shall be added to the Plan pursuant to subsection (ii).

(b) Notwithstanding Subparagraph (a) above, the number of Shares issuable pursuant to this Plan shall be increased, on the first day of each of the Company's 2024 and 2025 fiscal years by an amount equal to the lesser of (A) five percent (5%) of the outstanding shares of the Company's common stock on the last day of the immediately preceding fiscal year and (B) such smaller number of Shares as determined by the Board; provided, however, no more than 5,000,000 Shares may be issued upon the exercise of Incentive Stock Options.

(c) If an Option ceases to be "outstanding", in whole or in part (other than by exercise), or if the Company shall reacquire (at not more than its original issuance price) any Shares issued pursuant to a Stock Grant or Stock-Based Award, or if any Stock Right expires or is forfeited, cancelled, or otherwise terminated or results in any Shares not being issued, the unissued or reacquired Shares which were subject to such Stock Right shall again be available for issuance from time to time pursuant to this Plan. Notwithstanding the foregoing, if a Stock Right is exercised, in whole or in part, by tender of Shares or if the Company or an Affiliate's tax withholding obligation is satisfied by withholding Shares, the number of Shares deemed to have been issued under the Plan for purposes of the limitation set forth in Paragraph 3(a) above shall be the number of Shares that were subject to the Stock Right or portion thereof, and not the net number of Shares actually issued. In addition, Shares repurchased by the Company with the proceeds of the option exercise price may not be reissued under the Plan. However, in the case of ISOs, the foregoing provisions shall be subject to any limitations under the Code.

4. ADMINISTRATION OF THE PLAN.

The Administrator of the Plan will be the Board of Directors, except to the extent the Board of Directors delegates its authority to the Committee, in which case the Committee shall be the Administrator. Subject to the provisions of the Plan, the Administrator is authorized to:

(a) Interpret the provisions of the Plan and all Stock Rights and to make all rules and determinations which it deems necessary or advisable for the administration of the Plan;

(b) Determine which Employees, directors and Consultants shall be granted Stock Rights;

(c) Determine the number of Shares for which a Stock Right or Stock Rights shall be granted, provided however that in no event shall Stock Rights to be granted to any non-employee director under the Plan in any calendar year exceed an aggregate grant date fair value of \$250,000 except that the foregoing limitation shall not apply to Stock Rights made pursuant to an election by a non-employee director to receive the Stock Rights in lieu of cash for all or a portion of cash fees to be received for service on the Board or any Committee thereof;

(d) Specify the terms and conditions upon which a Stock Right or Stock Rights may be granted;

(e) Make any adjustments in the Performance Goals included in the Performance-Based Awards;

(f) Amend any term or condition of any outstanding Stock Right, other than reducing the exercise price or purchase price or extending the expiration date of an Option, provided that (i) such term or condition as amended is not prohibited by the Plan; (ii) any such amendment shall not impair the rights of a Participant under any Stock Right previously granted without such Participant's consent or in the event of death of the Participant the Participant's Survivors; and (iii) any such amendment shall be made only after the Administrator determines whether such amendment would cause any adverse tax consequences to the Participant, including, but not limited to, the annual vesting limitation contained in Section 422(d) of the Code and described in Paragraph 6(b)(iv) below with respect to ISOs and pursuant to Section 409A of the Code;

(g) Make any adjustments in the Performance Goals included in any Performance-Based Awards; and

(h) Adopt any sub-plans applicable to residents of any specified jurisdiction as it deems necessary or appropriate in order to comply with or take advantage of any tax or other laws applicable to the Company, any

Affiliate or to Participants or to otherwise facilitate the administration of the Plan, which sub-plans may include additional restrictions or conditions applicable to Stock Rights or Shares issuable pursuant to a Stock Right;

provided, however, that all such interpretations, rules, determinations, terms and conditions shall be made and prescribed in the context of potential tax consequences under Section 409A of the Code and preserving the tax status under Section 422 of the Code of those Options which are designated as ISOs. Subject to the foregoing, the interpretation and construction by the Administrator of any provisions of the Plan or of any Stock Right granted under it shall be final, unless otherwise determined by the Board of Directors, if the Administrator is the Committee. In addition, if the Administrator is the Committee, the Board of Directors may take any action under the Plan that would otherwise be the responsibility of the Committee.

To the extent permitted under applicable law, the Board of Directors or the Committee may allocate all or any portion of its responsibilities and powers to any one or more of its members and may delegate all or any portion of its responsibilities and powers to any other person selected by it. The Board of Directors or the Committee may revoke any such allocation or delegation at any time. Notwithstanding the foregoing, only the Board of Directors or the Committee shall be authorized to grant a Stock Right to any director of the Company or to any "officer" of the Company as defined by Rule 16a-1 under the Exchange Act.

5. ELIGIBILITY FOR PARTICIPATION.

The Administrator will, in its sole discretion, name the Participants in the Plan; provided, however, that each Participant must be an Employee, director or Consultant of the Company or of an Affiliate at the time a Stock Right is granted. Notwithstanding the foregoing, the Administrator may authorize the grant of a Stock Right to a person not then an Employee, director or Consultant of the Company or of an Affiliate; provided, however, that the actual grant of such Stock Right shall be conditioned upon such person becoming eligible to become a Participant at or prior to the time of the execution of the Agreement evidencing such Stock Right. ISOs may be granted only to Employees who are deemed to be residents of the United States for tax purposes. Non-Qualified Options, Stock Grants and Stock-Based Awards may be granted to any Employee, director or Consultant of the Company or an Affiliate. The granting of any Stock Right to any individual shall neither entitle that individual to, nor disqualify him or her from, participation in any other grant of Stock Rights or any grant under any other benefit plan established by the Company or any Affiliate for Employees, directors or Consultants.

6. TERMS AND CONDITIONS OF OPTIONS.

Each Option shall be set forth in an Option Agreement, duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Administrator may provide that Options be granted subject to such terms and conditions, consistent with the terms and conditions specifically required under this Plan, as the Administrator may deem appropriate including, without limitation, subsequent approval by the shareholders of the Company of this Plan or any amendments thereto. The Option Agreements shall be subject to at least the following terms and conditions:

(a) **Non-Qualified Options:** Each Option intended to be a Non-Qualified Option shall be subject to the terms and conditions which the Administrator determines to be appropriate and in the best interest of the Company, subject to the following minimum standards for any such Non-Qualified Option:

- (i) **Exercise Price:** Each Option Agreement shall state the exercise price (per share) of the Shares covered by each Option, which exercise price shall be determined by the Administrator and shall be at least equal to the Fair Market Value per share of the common stock on the date of grant of the Option.
- (ii) **Number of Shares:** Each Option Agreement shall state the number of Shares to which it pertains.
- (iii) **Vesting:** Each Option Agreement shall state the date or dates on which it first is exercisable and the date after which it may no longer be exercised, and may provide that the Option rights

accrue or become exercisable in installments over a period of months or years, or upon the occurrence of certain performance conditions or the attainment of stated goals or events.

(iv) Additional Conditions: Exercise of any Option may be conditioned upon the Participant's execution of a shareholder's agreement in a form satisfactory to the Administrator providing for certain protections for the Company and its other shareholders, including requirements that:

A. The Participant's or the Participant's Survivors' right to sell or transfer the Shares may be restricted; and

B. The Participant or the Participant's Survivors may be required to execute letters of investment intent and must also acknowledge that the Shares will bear legends noting any applicable restrictions.

(v) Term of Option: Each Option shall terminate not more than ten years from the date of the grant or at such earlier time as the Option Agreement may provide.

(b) ISOs: Each Option intended to be an ISO shall be issued only to an Employee who is deemed to be a resident of the United States for tax purposes, and shall be subject to the following terms and conditions, with such additional restrictions or changes as the Administrator determines are appropriate but not in conflict with Section 422 of the Code and relevant regulations and rulings of the Internal Revenue Service:

(i) Minimum standards: The ISO shall meet the minimum standards required of Non-Qualified Options, as described in Paragraph 6(a) above, except clause (i) and (v) thereunder.

(ii) Exercise Price: Immediately before the ISO is granted, if the Participant owns, directly or by reason of the applicable attribution rules in Section 424(d) of the Code:

A. 10% or less of the total combined voting power of all classes of stock of the Company or an Affiliate, the exercise price per share of the Shares covered by each ISO shall not be less than 100% of the Fair Market Value per share of the common stock on the date of grant of the Option; or

B. More than 10% of the total combined voting power of all classes of stock of the Company or an Affiliate, the exercise price per share of the Shares covered by each ISO shall not be less than 110% of the Fair Market Value per share of the common stock on the date of grant of the Option.

(iii) Term of Option: For Participants who own:

A. 10% or less of the total combined voting power of all classes of stock of the Company or an Affiliate, each ISO shall terminate not more than ten years from the date of the grant or at such earlier time as the Option Agreement may provide; or

B. More than 10% of the total combined voting power of all classes of stock of the Company or an Affiliate, each ISO shall terminate not more than five years from the date of the grant or at such earlier time as the Option Agreement may provide.

(iv) Limitation on Yearly Exercise: The Option Agreements shall restrict the amount of ISOs which may become exercisable in any calendar year (under this or any other ISO plan of the Company or an Affiliate) so that the aggregate Fair Market Value (determined on the date each ISO is granted) of the stock with respect to which ISOs are exercisable for the first time by the Participant in any calendar year does not exceed \$100,000.

7. TERMS AND CONDITIONS OF STOCK GRANTS.

Each Stock Grant to a Participant shall state the principal terms in an Agreement duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Agreement shall be in a form approved by the Administrator and shall contain terms and conditions which the Administrator determines to be appropriate and in the best interest of the Company, subject to the following minimum standards:

(a) Each Agreement shall state the purchase price per share, if any, of the Shares covered by each Stock Grant, which purchase price shall be determined by the Administrator but shall not be less than the minimum consideration required by the Delaware General Corporation Law, if any, on the date of the grant of the Stock Grant;

(b) Each Agreement shall state the number of Shares to which the Stock Grant pertains;

(c) Each Agreement shall include the terms of any right of the Company to restrict or reacquire the Shares subject to the Stock Grant, including the time period or attainment of Performance Goals or such other performance criteria upon which such rights shall accrue and the purchase price therefor, if any; and

(d) Dividends (other than stock dividends to be issued pursuant to Section 25 of the Plan) may accrue but shall not be paid prior to the time, and only to the extent that, the restrictions or rights to reacquire the Shares subject to the Stock Grant lapse.

8. TERMS AND CONDITIONS OF OTHER STOCK-BASED AWARDS.

The Administrator shall have the right to grant other Stock-Based Awards based upon the common stock having such terms and conditions as the Administrator may determine, including, without limitation, the grant of Shares based upon certain conditions, the grant of securities convertible into Shares and the grant of stock appreciation rights, phantom stock awards or stock units. The principal terms of each Stock-Based Award shall be set forth in an Agreement, duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Agreement shall be in a form approved by the Administrator and shall contain terms and conditions which the Administrator determines to be appropriate and in the best interest of the Company. Each Agreement shall include the terms of any right of the Company including the right to terminate the Stock-Based Award without the issuance of Shares, the terms of any vesting conditions, Performance Goals or events upon which Shares shall be issued provided that dividends (other than stock dividends to be issued pursuant to Section 25 of the Plan) or dividend equivalents may accrue but shall not be paid prior to and only to the extent that, the Shares subject to the Stock-Based Award vest. Under no circumstances may the Agreement covering stock appreciation rights (a) have a base price (per share) that is less than the Fair Market Value per share of common stock on the date of grant or (b) expire more than ten years following the date of grant.

The Company intends that the Plan and any Stock-Based Awards granted hereunder be exempt from the application of Section 409A of the Code or meet the requirements of paragraphs (2), (3) and (4) of subsection (a) of Section 409A of the Code, to the extent applicable, and be operated in accordance with Section 409A so that any compensation deferred under any Stock-Based Award (and applicable investment earnings) shall not be included in income under Section 409A of the Code. Any ambiguities in the Plan shall be construed to effect the intent as described in this Paragraph 8.

9. PERFORMANCE-BASED AWARDS.

The Committee shall determine whether, with respect to a performance period, the applicable Performance Goals have been met with respect to a given Participant and, if they have, to so certify and ascertain the amount of the applicable Performance-Based Award. No Performance-Based Awards will be issued for such performance period until such certification is made by the Committee. The number of Shares issued in respect of a Performance-Based Award determined by the Committee for a performance period shall be paid to the Participant at such time as determined by the Committee in its sole discretion after the end of such performance period and any dividends (other than stock dividends to be issued pursuant to Section 25 of the Plan) or dividend equivalents that accrue shall only be paid in respect of the number of Shares earned in respect of a Performance-Based Award.

10. EXERCISE OF OPTIONS AND ISSUE OF SHARES.

An Option (or any part or installment thereof) shall be exercised by giving written notice to the Company or its designee (in a form acceptable to the Administrator, which may include electronic notice), together with provision for payment of the aggregate exercise price in accordance with this Paragraph for the Shares as to which the Option is being exercised, and upon compliance with any other condition(s) set forth in the Option Agreement. Such notice shall be signed by the person exercising the Option (which signature may be provided electronically in a form acceptable to the Administrator), shall state the number of Shares with respect to which the Option is being exercised and shall contain any representation required by the Plan or the Option Agreement. Payment of the exercise price for the Shares as to which such Option is being exercised shall be made (a) in United States dollars in cash or by check; or (b) at the discretion of the Administrator, through delivery of shares of common stock held for at least six months (if required to avoid negative accounting treatment) having a Fair Market Value equal as of the date of the exercise to the aggregate cash exercise price for the number of Shares as to which the Option is being exercised; or (c) at the discretion of the Administrator, by having the Company retain from the Shares otherwise issuable upon exercise of the Option, a number of Shares having a Fair Market Value equal as of the date of exercise to the aggregate exercise price for the number of Shares as to which the Option is being exercised; or (d) at the discretion of the Administrator, in accordance with a cashless exercise program established with a securities brokerage firm, and approved by the Administrator; or (e) at the discretion of the Administrator, by any combination of (a), (b), (c) and (d) above or (f) at the discretion of the Administrator, by payment of such other lawful consideration as the Administrator may determine. Notwithstanding the foregoing, the Administrator shall accept only such payment on exercise of an ISO as is permitted by Section 422 of the Code.

The Company shall then reasonably promptly deliver the Shares as to which such Option was exercised to the Participant (or to the Participant's Survivors, as the case may be). In determining what constitutes "reasonably promptly," it is expressly understood that the issuance and delivery of the Shares may be delayed by the Company in order to comply with any law or regulation (including, without limitation, state securities or "blue sky" laws) which requires the Company to take any action with respect to the Shares prior to their issuance. The Shares shall, upon delivery, be fully paid, non-assessable Shares.

11. PAYMENT IN CONNECTION WITH THE ISSUANCE OF STOCK GRANTS AND STOCK-BASED AWARDS AND ISSUE OF SHARES.

Any Stock Grant or Stock-Based Award requiring payment of a purchase price for the Shares as to which such Stock Grant or Stock-Based Award is being granted shall be made (a) in United States dollars in cash or by check; or (b) at the discretion of the Administrator, through delivery of shares of common stock held for at least six months (if required to avoid negative accounting treatment) and having a Fair Market Value equal as of the date of payment to the purchase price of the Stock Grant or Stock-Based Award; or (c) at the discretion of the Administrator, by any combination of (a) and (b) above; or (d) at the discretion of the Administrator, by payment of such other lawful consideration as the Administrator may determine.

The Company shall when required by the applicable Agreement, reasonably promptly deliver the Shares as to which such Stock Grant or Stock-Based Award was made to the Participant (or to the Participant's Survivors, as the case may be), subject to any escrow provision set forth in the applicable Agreement. In determining what constitutes "reasonably promptly," it is expressly understood that the issuance and delivery of the Shares may be delayed by the Company in order to comply with any law or regulation (including, without limitation, state securities or "blue sky" laws) which requires the Company to take any action with respect to the Shares prior to their issuance.

12. RIGHTS AS A SHAREHOLDER.

No Participant to whom a Stock Right has been granted shall have rights as a shareholder with respect to any Shares covered by such Stock Right except after due exercise of an Option or issuance of Shares as set forth in

any Agreement, tender of the aggregate exercise or purchase price, if any, for the Shares being purchased and registration of the Shares in the Company's share register in the name of the Participant.

13. ASSIGNABILITY AND TRANSFERABILITY OF STOCK RIGHTS.

By its terms, a Stock Right granted to a Participant shall not be transferable by the Participant other than (i) by will or by the laws of descent and distribution, or (ii) as approved by the Administrator in its discretion and set forth in the applicable Agreement provided that no Stock Right may be transferred by a Participant for value. Notwithstanding the foregoing, an ISO transferred except in compliance with clause (i) above shall no longer qualify as an ISO. The designation of a beneficiary of a Stock Right by a Participant, with the prior approval of the Administrator and in such form as the Administrator shall prescribe, shall not be deemed a transfer prohibited by this Paragraph. Except as provided above during the Participant's lifetime a Stock Right shall only be exercisable by or issued to such Participant (or his or her legal representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of any Stock Right or of any rights granted thereunder contrary to the provisions of this Plan, or the levy of any attachment or similar process upon a Stock Right, shall be null and void.

14. EFFECT ON OPTIONS OF TERMINATION OF SERVICE OTHER THAN FOR CAUSE OR DEATH OR DISABILITY.

Except as otherwise provided in a Participant's Option Agreement, in the event of a termination of service (whether as an Employee, director or Consultant) with the Company or an Affiliate before the Participant has exercised an Option, the following rules apply:

(a) A Participant who ceases to be an Employee, director or Consultant of the Company or of an Affiliate (for any reason other than termination for Cause, Disability, or death for which events there are special rules in Paragraphs 15, 16, and 17, respectively), may exercise any Option granted to him or her to the extent that the Option is exercisable on the date of such termination of service, but only within such term as the Administrator has designated in a Participant's Option Agreement.

(b) Except as provided in Subparagraph (c) below, or Paragraph 16 or 17, in no event may an Option intended to be an ISO, be exercised later than three months after the Participant's termination of employment.

(c) The provisions of this Paragraph, and not the provisions of Paragraph 16 or 17, shall apply to a Participant who subsequently becomes Disabled or dies after the termination of employment, director status or consultancy; provided, however, in the case of a Participant's Disability or death within three months after the termination of employment, director status or consultancy, the Participant or the Participant's Survivors may exercise the Option within one year after the date of the Participant's termination of service, but in no event after the date of expiration of the term of the Option.

(d) Notwithstanding anything herein to the contrary, if subsequent to a Participant's termination of employment, termination of director status or termination of consultancy, but prior to the exercise of an Option, the Administrator determines that, either prior or subsequent to the Participant's termination, the Participant engaged in conduct which would constitute Cause, then such Participant shall forthwith cease to have any right to exercise any Option.

(e) A Participant to whom an Option has been granted under the Plan who is absent from the Company or an Affiliate because of temporary disability (any disability other than a Disability as defined in Paragraph 1 hereof), or who is on leave of absence for any purpose, shall not, during the period of any such absence, be deemed, by virtue of such absence alone, to have terminated such Participant's employment, director status or consultancy with the Company or with an Affiliate, except as the Administrator may otherwise expressly provide; provided, however,

that, for ISOs, any leave of absence granted by the Administrator of greater than three months, unless pursuant to a contract or statute that guarantees the right to reemployment, shall cause such ISO to become a Non-Qualified Option on the date that is six months following the commencement of such leave of absence.

(f) Except as required by law or as set forth in a Participant's Option Agreement, Options granted under the Plan shall not be affected by any change of a Participant's status within or among the Company and any Affiliates, so long as the Participant continues to be an Employee, director or Consultant of the Company or any Affiliate.

15. EFFECT ON OPTIONS OF TERMINATION OF SERVICE FOR CAUSE.

Except as otherwise provided in a Participant's Option Agreement, the following rules apply if the Participant's service (whether as an Employee, director or Consultant) with the Company or an Affiliate is terminated for Cause prior to the time that all his or her outstanding Options have been exercised:

(a) All outstanding and unexercised Options as of the time the Participant is notified his or her service is terminated for Cause will immediately be forfeited.

(b) Cause is not limited to events which have occurred prior to a Participant's termination of service, nor is it necessary that the Administrator's finding of Cause occur prior to termination. If the Administrator determines, subsequent to a Participant's termination of service but prior to the exercise of an Option, that either prior or subsequent to the Participant's termination the Participant engaged in conduct which would constitute Cause, then the right to exercise any Option is forfeited.

16. EFFECT ON OPTIONS OF TERMINATION OF SERVICE FOR DISABILITY.

Except as otherwise provided in a Participant's Option Agreement:

(a) A Participant who ceases to be an Employee, director or Consultant of the Company or of an Affiliate by reason of Disability may exercise any Option granted to such Participant to the extent that the Option has become exercisable but has not been exercised on the date of the Participant's termination of service due to Disability; and in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of the Participant's termination of service due to Disability of any additional vesting rights that would have accrued on the next vesting date had the Participant not become Disabled. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of the Participant's termination of service due to Disability.

(b) A Disabled Participant may exercise the Option only within the period ending one year after the date of the Participant's termination of service due to Disability, notwithstanding that the Participant might have been able to exercise the Option as to some or all of the Shares on a later date if the Participant had not been terminated due to Disability and had continued to be an Employee, director or Consultant or, if earlier, within the originally prescribed term of the Option.

(c) The Administrator shall make the determination both of whether Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Administrator, the cost of which examination shall be paid for by the Company.

17. EFFECT ON OPTIONS OF DEATH WHILE AN EMPLOYEE, DIRECTOR OR CONSULTANT.

Except as otherwise provided in a Participant's Option Agreement:

(a) In the event of the death of a Participant while the Participant is an Employee, director or Consultant of the Company or of an Affiliate, such Option may be exercised by the Participant's Survivors to the extent that the Option has become exercisable but has not been exercised on the date of death; and in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of death of any additional vesting

rights that would have accrued on the next vesting date had the Participant not died. The proration shall be based upon the number of days accrued in the current vesting period prior to the Participant's date of death.

(b) If the Participant's Survivors wish to exercise the Option, they must take all necessary steps to exercise the Option within one year after the date of death of such Participant, notwithstanding that the decedent might have been able to exercise the Option as to some or all of the Shares on a later date if he or she had not died and had continued to be an Employee, director or Consultant or, if earlier, within the originally prescribed term of the Option.

18. EFFECT OF TERMINATION OF SERVICE ON UNACCEPTED STOCK GRANTS AND STOCK-BASED AWARDS.

In the event of a termination of service (whether as an Employee, director or Consultant) with the Company or an Affiliate for any reason before the Participant has accepted a Stock Grant or a Stock-Based Award and paid the purchase price, if required, such grant shall terminate.

For purposes of this Paragraph 18 and Paragraph 19 below, a Participant to whom a Stock Grant or a Stock-Based Award has been issued under the Plan who is absent from work with the Company or with an Affiliate because of temporary disability (any disability other than a Disability as defined in Paragraph 1 hereof), or who is on leave of absence for any purpose, shall not, during the period of any such absence, be deemed, by virtue of such absence alone, to have terminated such Participant's employment, director status or consultancy with the Company or with an Affiliate, except as the Administrator may otherwise expressly provide.

In addition, for purposes of this Paragraph 18 and Paragraph 19 below, any change of employment or other service within or among the Company and any Affiliates shall not be treated as a termination of employment, director status or consultancy so long as the Participant continues to be an Employee, director or Consultant of the Company or any Affiliate.

19. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF TERMINATION OF SERVICE OTHER THAN FOR CAUSE, DEATH OR DISABILITY.

Except as otherwise provided in a Participant's Agreement, in the event of a termination of service for any reason (whether as an Employee, director or Consultant), other than termination for Cause, death or Disability for which there are special rules in Paragraphs 20, 21, and 22 below, before all forfeiture provisions or Company rights of repurchase shall have lapsed, then the Company shall have the right to cancel or repurchase that number of Shares subject to a Stock Grant or Stock-Based Award as to which the Company's forfeiture or repurchase rights have not lapsed.

20. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF TERMINATION OF SERVICE FOR CAUSE.

Except as otherwise provided in a Participant's Agreement, the following rules apply if the Participant's service (whether as an Employee, director or Consultant) with the Company or an Affiliate is terminated for Cause:

(a) All Shares subject to any Stock Grant or Stock-Based Award that remain subject to forfeiture provisions or as to which the Company shall have a repurchase right shall be immediately forfeited to the Company as of the time the Participant is notified his or her service is terminated for Cause.

(b) Cause is not limited to events which have occurred prior to a Participant's termination of service, nor is it necessary that the Administrator's finding of Cause occur prior to termination. If the Administrator determines, subsequent to a Participant's termination of service, that either prior or subsequent to the Participant's termination the Participant engaged in conduct which would constitute Cause, then all Shares subject to any Stock Grant or Stock-Based Award that remained subject to forfeiture provisions or as to which the Company had a repurchase right on the date of termination shall be immediately forfeited to the Company.

21. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF TERMINATION OF SERVICE FOR DISABILITY.

Except as otherwise provided in a Participant's Agreement, the following rules apply if a Participant ceases to be an Employee, director or Consultant of the Company or of an Affiliate by reason of Disability: to the extent the forfeiture provisions or the Company's rights of repurchase have not lapsed on the date of Disability, they shall be exercisable; provided, however, that in the event such forfeiture provisions or rights of repurchase lapse periodically, such provisions or rights shall lapse to the extent of a pro rata portion of the Shares subject to such Stock Grant or Stock-Based Award through the date of Disability as would have lapsed had the Participant not become Disabled. The proration shall be based upon the number of days accrued prior to the date of Disability.

The Administrator shall make the determination both as to whether Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Administrator, the cost of which examination shall be paid for by the Company.

22. EFFECT ON STOCK GRANTS AND STOCK-BASED AWARDS OF DEATH WHILE AN EMPLOYEE, DIRECTOR OR CONSULTANT.

Except as otherwise provided in a Participant's Agreement, the following rules apply in the event of the death of a Participant while the Participant is an Employee, director or Consultant of the Company or of an Affiliate: to the extent the forfeiture provisions or the Company's rights of repurchase have not lapsed on the date of death, they shall be exercisable; provided, however, that in the event such forfeiture provisions or rights of repurchase lapse periodically, such provisions or rights shall lapse to the extent of a pro rata portion of the Shares subject to such Stock Grant or Stock-Based Award through the date of death as would have lapsed had the Participant not died. The proration shall be based upon the number of days accrued prior to the Participant's date of death.

23. PURCHASE FOR INVESTMENT.

Unless the offering and sale of the Shares shall have been effectively registered under the Securities Act, the Company shall be under no obligation to issue Shares under the Plan unless and until the following conditions have been fulfilled:

(a) The person who receives a Stock Right shall warrant to the Company, prior to the receipt of Shares, that such person is acquiring such Shares for his or her own account, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person acquiring such Shares shall be bound by the provisions of the following legend (or a legend in substantially similar form) which shall be endorsed upon the certificate evidencing the Shares issued pursuant to such exercise or such grant of a Stock Right:

"The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws."

(b) At the discretion of the Administrator, the Company shall have received an opinion of its counsel that the Shares may be issued in compliance with the Securities Act without registration thereunder.

24. DISSOLUTION OR LIQUIDATION OF THE COMPANY.

Upon the dissolution or liquidation of the Company, all Options granted under this Plan which as of such date shall not have been exercised and all Stock Grants and Stock-Based Awards which have not been accepted, to the extent required under the applicable Agreement, will terminate and become null and void; provided, however,

that if the rights of a Participant or a Participant's Survivors have not otherwise terminated and expired, the Participant or the Participant's Survivors will have the right immediately prior to such dissolution or liquidation to exercise or accept any Stock Right to the extent that the Stock Right is exercisable or subject to acceptance as of the date immediately prior to such dissolution or liquidation. Upon the dissolution or liquidation of the Company, any outstanding Stock-Based Awards shall immediately terminate unless otherwise determined by the Administrator or specifically provided in the applicable Agreement.

25. ADJUSTMENTS.

Upon the occurrence of any of the following events, a Participant's rights with respect to any Stock Right granted to him or her hereunder shall be adjusted as hereinafter provided, unless otherwise specifically provided in a Participant's Agreement.

(a) Stock Dividends and Stock Splits. If (i) the shares of common stock shall be subdivided or combined into a greater or smaller number of shares or if the Company shall issue any shares of common stock as a stock dividend on its outstanding common stock, or (ii) additional shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such shares of common stock, each Stock Right and the number of shares of common stock deliverable thereunder shall be appropriately increased or decreased proportionately, and appropriate adjustments shall be made including, in the exercise, base or purchase price per share, and the Performance Goals applicable to outstanding Performance-Based Awards to reflect such events. The number of Shares subject to the limitations in Paragraph 3(a), 3(b) and 4(c) shall also be proportionately adjusted upon the occurrence of such events.

(b) Corporate Transactions. If the Company is to be consolidated with or acquired by another entity in a merger, consolidation, or sale of all or substantially all of the Company's assets or the acquisition of all of the outstanding voting stock of the Company in a single transaction or a series of related transactions by a single entity other than a transaction to merely change the state of incorporation (a "Corporate Transaction"), the Administrator or the Board of Directors of any entity assuming the obligations of the Company hereunder (the "Successor Board"), shall, as to outstanding Options, either (i) make appropriate provision for the continuation of such Options by substituting on an equitable basis for the Shares then subject to such Options either the consideration payable with respect to the outstanding shares of common stock in connection with the Corporate Transaction or securities of any successor or acquiring entity; or (ii) upon written notice to the Participants, provide that such Options must be exercised (either (A) to the extent then exercisable or, (B) at the discretion of the Administrator, any such Options being made partially or fully exercisable for purposes of this Subparagraph), within a specified number of days of the date of such notice, at the end of which period such Options which have not been exercised shall terminate; or (iii) terminate such Options in exchange for payment of an amount equal to the consideration payable upon consummation of such Corporate Transaction to a holder of the number of shares of common stock into which such Option would have been exercisable (either (A) to the extent then exercisable or, (B) at the discretion of the Administrator, any such Options being made partially or fully exercisable for purposes of this Subparagraph) less the aggregate exercise price thereof. For purposes of determining the payments to be made pursuant to Subclause (iii) above, in the case of a Corporate Transaction the consideration for which, in whole or in part, is other than cash, the consideration other than cash shall be valued at the fair value thereof as determined in good faith by the Board of Directors.

Notwithstanding the foregoing, in the event the Corporate Transaction also constitutes a Change of Control, and the Change of Control does not provide for the continuation of such Options as set forth in clause (i) above, then on the date of the Corporate Transaction all Options outstanding shall become fully exercisable as of the effective time of the Corporate Transaction, all other Stock Rights with time-based vesting, conditions or restrictions shall become fully vested and nonforfeitable as of the effective time of the Corporate Transaction, and all Performance-Based Awards may become vested and nonforfeitable in connection with the Corporate Transaction in the Administrator's discretion or to the extent specified in the relevant Agreement.

With respect to outstanding Stock Grants, the Administrator or the Successor Board, shall make appropriate provision for the continuation of such Stock Grants on the same terms and conditions by substituting on an equitable

basis for the Shares then subject to such Stock Grants either the consideration payable with respect to the outstanding Shares of common stock in connection with the Corporate Transaction or securities of any successor or acquiring entity. In lieu of the foregoing, in connection with any Corporate Transaction, the Administrator may provide that, upon consummation of the Corporate Transaction, each outstanding Stock Grant shall be terminated in exchange for payment of an amount equal to the consideration payable upon consummation of such Corporate Transaction to a holder of the number of shares of common stock comprising such Stock Grant (to the extent such Stock Grant is no longer subject to any forfeiture or repurchase rights then in effect or, at the discretion of the Administrator, all forfeiture and repurchase rights being waived upon such Corporate Transaction).

In taking any of the actions permitted under this Paragraph 25(b), the Administrator shall not be obligated by the Plan to treat all Stock Rights, all Stock Rights held by a Participant, or all Stock Rights of the same type, identically.

(c) Recapitalization or Reorganization. In the event of a recapitalization or reorganization of the Company other than a Corporate Transaction pursuant to which securities of the Company or of another corporation are issued with respect to the outstanding shares of common stock, a Participant upon exercising an Option or accepting a Stock Grant after the recapitalization or reorganization shall be entitled to receive for the price paid upon such exercise or acceptance if any, the number of replacement securities which would have been received if such Option had been exercised or Stock Grant accepted prior to such recapitalization or reorganization.

(d) Adjustments to Stock-Based Awards. Upon the happening of any of the events described in Subparagraphs (a), (b) or (c) above, any outstanding Stock-Based Award shall be appropriately adjusted to reflect the events described in such Subparagraphs. The Administrator or the Successor Board shall determine the specific adjustments to be made under this Paragraph 25, including, but not limited to the effect of any, Corporate Transaction and Change of Control and, subject to Paragraph 4, its determination shall be conclusive.

(e) Modification of Options. Notwithstanding the foregoing, any adjustments made pursuant to Subparagraph (a), (b) or (c) above with respect to Options shall be made only after the Administrator determines whether such adjustments would (i) constitute a "modification" of any ISOs (as that term is defined in Section 424(h) of the Code) or (ii) cause any adverse tax consequences for the holders of Options, including, but not limited to, pursuant to Section 409A of the Code. If the Administrator determines that such adjustments made with respect to Options would constitute a modification or other adverse tax consequence, it may in its discretion refrain from making such adjustments, unless the holder of an Option specifically agrees in writing that such adjustment be made and such writing indicates that the holder has full knowledge of the consequences of such "modification" on his or her income tax treatment with respect to the Option. This paragraph shall not apply to the acceleration of the vesting of any ISO that would cause any portion of the ISO to violate the annual vesting limitation contained in Section 422(d) of the Code, as described in Paragraph 6(b)(iv).

26. ISSUANCES OF SECURITIES.

Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares subject to Stock Rights. Except as expressly provided herein, no adjustments shall be made for dividends paid in cash or in property (including without limitation, securities) of the Company prior to any issuance of Shares pursuant to a Stock Right.

27. FRACTIONAL SHARES.

No fractional shares shall be issued under the Plan and the person exercising a Stock Right shall receive from the Company cash in lieu of such fractional shares equal to the Fair Market Value thereof.

28. WITHHOLDING.

In the event that any federal, state, or local income taxes, employment taxes, Federal Insurance Contributions Act withholdings or other amounts are required by applicable law or governmental regulation to be

withheld from the Participant's salary, wages or other remuneration in connection with the issuance of a Stock Right or Shares under the Plan or for any other reason required by law, the Company may withhold from the Participant's compensation, if any, or may require that the Participant advance in cash to the Company, or to any Affiliate of the Company which employs or employed the Participant, the statutory minimum amount of such withholdings unless a different withholding arrangement, including the use of shares of the Company's common stock or a promissory note, is authorized by the Administrator (and permitted by law). For purposes hereof, the fair market value of the shares withheld for purposes of payroll withholding shall be determined in the manner set forth under the definition of Fair Market Value provided in Paragraph 1 above, as of the most recent practicable date prior to the date of exercise. If the Fair Market Value of the shares withheld is less than the amount of payroll withholdings required, the Participant may be required to advance the difference in cash to the Company or the Affiliate employer.

29. NOTICE TO COMPANY OF DISQUALIFYING DISPOSITION.

Each Employee who receives an ISO must agree to notify the Company in writing immediately after the Employee makes a Disqualifying Disposition of any Shares acquired pursuant to the exercise of an ISO. A Disqualifying Disposition is defined in Section 424(c) of the Code and includes any disposition (including any sale or gift) of such Shares before the later of (a) two years after the date the Employee was granted the ISO, or (b) one year after the date the Employee acquired Shares by exercising the ISO, except as otherwise provided in Section 424(c) of the Code. If the Employee has died before such Shares are sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

30. TERMINATION OF THE PLAN.

The Plan will terminate on April 4, 2028, the date which is ten years from the earlier of the date of its adoption by the Board of Directors and the date of its approval by the shareholders of the Company. The Plan may be terminated at an earlier date by vote of the shareholders or the Board of Directors of the Company; provided, however, that any such earlier termination shall not affect any Agreements executed prior to the effective date of such termination. Termination of the Plan shall not affect any Stock Rights theretofore granted.

31. AMENDMENT OF THE PLAN AND AGREEMENTS.

The Plan may be amended by the shareholders of the Company. The Plan may also be amended by the Administrator; provided that any amendment approved by the Administrator which the Administrator determines is of a scope that requires shareholder approval shall be subject to obtaining such shareholder approval including, without limitation, to the extent necessary to qualify any or all outstanding Stock Rights granted under the Plan or Stock Rights to be granted under the Plan for favorable federal income tax treatment as may be afforded ISOs under Section 422 of the Code and to the extent necessary to qualify the Shares issuable under the Plan for listing on any national securities exchange or quotation in any national automated quotation system of securities dealers. Other than as set forth in Paragraph 25 of the Plan, the Administrator may not without shareholder approval reduce the exercise price of an Option or cancel any outstanding Option in exchange for a replacement option having a lower exercise price, any Stock Grant, any other Stock-Based Award or for cash. In addition, the Administrator not take any other action that is considered a direct or indirect "repricing" for purposes of the shareholder approval rules of the applicable securities exchange or inter-dealer quotation system on which the Shares are listed, including any other action that is treated as a repricing under generally accepted accounting principles. Any modification or amendment of the Plan shall not, without the consent of a Participant, adversely affect his or her rights under a Stock Right previously granted to him or her, unless such amendment is required by applicable law or necessary to preserve the economic value of such Stock Right. With the consent of the Participant affected, the Administrator may amend outstanding Agreements in a manner which may be adverse to the Participant but which is not inconsistent with the Plan. In the discretion of the Administrator, outstanding Agreements may be amended by the Administrator in a manner which is not adverse to the Participant. Nothing in this Paragraph 31 shall limit the Administrator's authority to take any action permitted pursuant to Paragraph 25.

32. EMPLOYMENT OR OTHER RELATIONSHIP.

Nothing in this Plan or any Agreement shall be deemed to prevent the Company or an Affiliate from terminating the employment, consultancy or director status of a Participant, nor to prevent a Participant from terminating his or her own employment, consultancy or director status or to give any Participant a right to be retained in employment or other service by the Company or any Affiliate for any period of time.

33. SECTION 409A.

If a Participant is a “specified employee” as defined in Section 409A of the Code (and as applied according to procedures of the Company and its Affiliates) as of his separation from service, to the extent any payment under this Plan or pursuant to the grant of a Stock-Based Award constitutes deferred compensation (after taking into account any applicable exemptions from Section 409A of the Code), and to the extent required by Section 409A of the Code, no payments due under this Plan or pursuant to a Stock-Based Award may be made until the earlier of: (i) the first day of the seventh month following the Participant’s separation from service, or (ii) the Participant’s date of death; provided, however, that any payments delayed during this six-month period shall be paid in the aggregate in a lump sum, without interest, on the first day of the seventh month following the Participant’s separation from service.

The Administrator shall administer the Plan with a view toward ensuring that Stock Rights under the Plan that are subject to Section 409A of the Code comply with the requirements thereof and that Options under the Plan be exempt from the requirements of Section 409A of the Code, but neither the Administrator nor any member of the Board, nor the Company nor any of its Affiliates, nor any other person acting hereunder on behalf of the Company, the Administrator or the Board shall be liable to a Participant or any Survivor by reason of the acceleration of any income, or the imposition of any additional tax or penalty, with respect to a Stock Right, whether by reason of a failure to satisfy the requirements of Section 409A of the Code or otherwise.

34. INDEMNITY.

Neither the Board nor the Administrator, nor any members of either, nor any employees of the Company or any parent, subsidiary, or other Affiliate, shall be liable for any act, omission, interpretation, construction or determination made in good faith in connection with their responsibilities with respect to this Plan, and the Company hereby agrees to indemnify the members of the Board, the members of the Committee, and the employees of the Company and its parent or subsidiaries in respect of any claim, loss, damage, or expense (including reasonable counsel fees) arising from any such act, omission, interpretation, construction or determination to the full extent permitted by law.

35. CLAWBACK.

Notwithstanding anything to the contrary contained in this Plan, the Company may recover from a Participant any compensation received from any Stock Right (whether or not settled) or cause a Participant to forfeit any Stock Right (whether or not vested) in the event that the Company’s Clawback Policy then in effect is triggered.

36. GOVERNING LAW.

This Plan shall be construed and enforced in accordance with the law of the State of Delaware.

APPENDIX B

YIELD10 BIOSCIENCE, INC.

19 Presidential Way, Woburn Massachusetts 01801

PROXY FOR ANNUAL MEETING OF STOCKHOLDERS

MAY 25, 2023

YIELD10 BIOSCIENCE'S BOARD OF DIRECTORS SOLICITS THIS PROXY

The undersigned, revoking any previous proxies relating to these shares, hereby appoints Oliver P. Peoples, Ph.D. and Charles B. Haaser, and each of them (with full power to act alone), the attorneys-in-fact and proxies of the undersigned, with power of substitution to each, to vote all shares of the Common Stock of Yield10 Bioscience, Inc. registered in the name provided in this Proxy which the undersigned is entitled to vote at the 2023 Annual Meeting of Stockholders, to be held in a virtual format at 10:00 a.m. Eastern time, on Thursday, May 25, 2023, at the following weblink: <https://www.viewproxy.com/yield10bio/2023/vm> with all the powers the undersigned would have if personally present at the meeting. Without limiting the general authorization given by this Proxy, the proxies are, and each of them is, instructed to vote or act as follows on the proposals set forth in the Proxy.

This Proxy, when executed, will be voted in the manner directed herein. If you do not specify on the reverse side how you want your shares voted, this Proxy will be voted FOR the nominated Class II Directors, FOR the Amendment to the 2018 Stock Option and Incentive Plan, and FOR Proposal 3. In their discretion, the proxies are authorized to vote upon such other matters as may properly come before the meeting or any adjournments of the meeting.

To vote, mark blocks below in blue or black ink as follows [X] This proxy card is valid only when signed and dated.

The Board of Directors recommends you vote FOR all nominees in Proposal 1.

1. Proposal to elect Oliver P. Peoples. and Willie Loh as Class II Directors of the Company.

Oliver P. Peoples

FOR THE NOMINEE WITHHOLD AUTHORITY FOR THE NOMINEE

Willie Loh

FOR THE NOMINEE WITHHOLD AUTHORITY FOR THE NOMINEE

The Board of Directors recommends you vote FOR Proposals 2 and 3.

2. The Amendment to the Company's 2018 Stock Option and Incentive Plan.

FOR AGAINST ABSTAIN

3. Proposal to ratify the appointment of RSM US LLP as the Company's independent public accounting firm for the fiscal year ending December 31, 2023.

FOR AGAINST ABSTAIN

Note: Such other business as may properly come before the meeting or any adjournment thereof.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by the authorized officer.

Signature: _____ Date _____ Signature: _____ Date _____