

OMB APPROVAL	
OMB Number:	3235-0287
Estimated average burden hours per response:	0.5

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>Peoples Oliver P</u> <hr/> (Last) (First) (Middle) <u>C/O YIELD10 BIOSCIENCE, INC.</u> <u>19 PRESIDENTIAL WAY</u> <hr/> (Street) <u>WOBURN MA 01801</u> <hr/> (City) (State) (Zip)			2. Issuer Name and Ticker or Trading Symbol <u>YIELD10 BIOSCIENCE, INC. [YTEN]</u>			5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <p style="text-align: center;">Pres and CEO</p>		
			3. Date of Earliest Transaction (Month/Day/Year) <u>02/10/2022</u>			6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person		
			4. If Amendment, Date of Original Filed (Month/Day/Year)					

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	02/10/2022		A		36,023 ⁽¹⁾	A	\$3.83	51,715	D	
Common Stock								4,987 ⁽²⁾	I	By 401(k) Plan

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)	
				Code	V	(A)	(D)	Date Exercisable	Expiration Date						Title
Stock Option (right to buy)	\$3.83	02/10/2022		A		54,000		(3)	02/10/2032	Common Stock	54,000	\$0	54,000	D	

Explanation of Responses:

- The securities awarded are in the form of restricted stock units ("RSUs"). Each RSU represents a contingent right to receive one share of the Issuer's common stock. The RSUs will vest as to 50% of the shares on 8/10/2022 and the remaining 50% on 2/10/2023.
- Shares acquired as Issuer matching contributions under the Yield10 Bioscience, Inc. 401(k) Plan.
- These options will vest and become exercisable in equal quarterly installments over 4 years from 2/10/2022, beginning on 5/10/2022 and ending on 2/10/2026.

/s/ Megan N. Gates, attorney-in-fact 02/14/2022

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.