

FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

OMB APPROVAL

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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> (Last) (First) (Middle) <u>C/O YIELD10 BIOSCIENCE, INC.</u> <u>19 PRESIDENTIAL WAY</u> (Street) <u>WOBURN MA 01801</u> (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) <u>Pres & CEO</u>
	3. Date of Earliest Transaction (Month/Day/Year) <u>10/01/2019</u>	
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	10/01/2019		P		9,178 ⁽¹⁾	A	\$0.56 ⁽²⁾	66,806	D	
Common Stock	10/02/2019		P		822 ⁽¹⁾	A	\$0.53 ⁽³⁾	67,628	D	
Common Stock								24,124 ⁽⁴⁾	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					

Explanation of Responses:

- These shares were purchased pursuant to a Rule 10b5-1 buying plan adopted by the reporting person on June 3, 2019.
- Represents the weighted average sales price for the shares purchased. Sales prices for this transaction ranged from \$0.53 to \$0.56. The reporting person undertakes to provide, upon request by the Securities and Exchange Commission staff, Yield10 Bioscience, Inc., or a security holder of Yield10 Bioscience, Inc., full information regarding the number of shares purchased at each separate price.
- Represents the weighted average sales price for the shares purchased. Sales prices for this transaction ranged from \$0.53 to \$0.535. The reporting person undertakes to provide, upon request by the Securities and Exchange Commission staff, Yield10 Bioscience, Inc., or a security holder of Yield10 Bioscience, Inc., full information regarding the number of shares purchased at each separate price.
- These shares were acquired as Company matching contributions under the Yield10 Bioscience, Inc. 401(k) Plan.

/s/ Megan N. Gates, attorney-in-fact 10/02/2019
 ** 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.