FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

| 1 | OMB APPROVAL | | | | | | | | | | | | |
|----|--------------|--|--|-----------|--|--|--|--|--|--|--|--|--|
| | OMB Number: | | | 3235-0287 | | | | | | | | | |
| -1 | | | | | | | | | | | | | |

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

| | Check this box if no longer subject to |
|---|--|
| ١ | Section 16. Form 4 or Form 5 |
| ı | obligations may continue. See |
| | Instruction 1(h) |

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* REYNOLDS FRANCIS | | | | | | | 2. Issuer Name and Ticker or Trading Symbol INVIVO THERAPEUTICS HOLDINGS | | | | | | | | | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) | | | | | | |
|--|--|-------|------------|------------------------------|--------|---|--|-----------------------|---|--------------------------------------|---|---|-------------|-----------|----------------------|---|------------------------------------|---|--|---|----------------------|--|
| RETINOLDS FRANCIS | | | | | | | CORP. [NVIV] | | | | | | | | | X | Direc | tor | X | 10% O | wner | |
| (Last) | (F | irst) | (1) | Middle) | | | | | , | | | | | | | X | Office | er (give title v) | | Other (below) | specify | |
| C/O INVIVO THERAPEUTICS HOLDINGS CORP. | | | | | | | 3. Date of Earliest Transaction (Month/Day/Year) 03/28/2013 | | | | | | | | | | | CEO | , CFO | O | | |
| ONE KE | NDALL S | QUA | ARE, SUITE | B14402 | | 4. If | 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | | | | | | | 6. Individual or Joint/Group Filing (Check Applicable | | | | | | |
| (Street) | | | | | | | | | | | | | | | | ine) X | Form filed by One Reporting Person | | | | | |
| CAMBRIDGE MA 02139 | | | | | | | | | | | | | | | | Form filed by More than One Reporting Person | | | | | | |
| (City) (State) (Zip) | | | | | | | | | | | | | | | | | | | | | | |
| | | | Table | e I - Non | -Deriv | ative | Se | curiti | es Ac | quired, | Dis | posed o | f, or | Bene | eficia | ally C |)wne | ed | | | | |
| 1. Title of Security (Instr. 3) 2. Transac Date (Month/Date) | | | | | | | Execution Date, | | Code (| Transaction Disposed Code (Instr. 5) | | ities Acquired (A) d Of (D) (Instr. 3, | | | 4 and Secur Benef | | cially I Following | Form (D) o | vnership n: Direct r Indirect nstr. 4) | 7. Nature of Indirect Beneficial Ownership | | |
| | | | | | | | | | Code | v | Amount | | A) or D) | Price | . 1 | Transa | saction(s) 3 and 4) | | | (Instr. 4) | | |
| COMMON STOCK 03/28/ | | | | | | | 2013 | | S ⁽¹⁾ | | 4,250 | | D | \$2.4(2) | | 13,478,560 | | | D | | | |
| COMMON STOCK | | | | | | | | | | | | | | | | | 1 | 9,579 | | I | By 401(k) plan | |
| | Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities) | | | | | | | | | | | | | | | | | | | | | |
| Derivative Conversion Date Execution Date, To Courty or Exercise (Month/Day/Year) if any | | | | 4. Transa Code (8) | | of Derivative (Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | | Expiratio (Month/D | b. Date Exercisable and expiration Date Month/Day/Year) | | Amount of Securities Underlying Derivative Security (Instr. and 4) | | ount | nt . | | | | 0. Dwnership orm: Direct (D) r Indirect) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) | | | |
| | | | | | | Code | v | (A) | (D) | Date Exercisal | | Expiration Date | Title | of Sha | res | | | | | | | |

Explanation of Responses:

- 1. The sales reported in this Form 4 were effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person.
- 2. The price reported in column 4 is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$2.38 to \$2.43, inclusive. The reporting person undertakes to provide InVivo Therapeutics Holdings Corp. ("InVivo"), any security holder of InVivo, or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the ranges set forth in footnote 2.

/s/ Francis Reynolds 03/28/2013

** 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.