FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

| STATEMENT | OF CHANGES | IN BENEFICIAL | OWNERSHIP |
|-----------|------------|---------------|-----------|

| | OMB APPROVAL | | | | | | | | | |
|-----|-------------------|-----------|--|--|--|--|--|--|--|--|
| | OMB Number: | 3235-0287 | | | | | | | | |
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0.5

hours per response:

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

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|--|----------|---------------|---|--------------|--|---|-------------------------|---|---|--|---------------------|-------------|-----------------------|---|---|------------------------|--|--|---|------------|--|
| 1. Name and Address of Reporting Person* | | | | | 2. Issuer Name and Ticker or Trading Symbol INVIVO THERAPEUTICS HOLDINGS | | | | | | | | | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) | | | | | | | |
| REYNOLDS FRANCIS | | | | | CORP. [NVIV] | | | | | | | | | X | Direc | ctor | X | 10% C | wner | | |
| (Last) | (Fi | rst) (| Middle) | | | CORF. [INVIV] | | | | | | | | | X | Offic belov | er (give title v) | | Other below) | (specify | |
| C/O INVIVO THERAPEUTICS HOLDINGS | | | | | 3. Date of Earliest Transaction (Month/Day/Year) 07/18/2013 | | | | | | | | | CEO, CFO | | | | | | | |
| CORP. | | | | " | 07/10/2010 | | | | | | | | | | | | | | | | |
| ONE KEI | NDALL SO | QUARE, SUITE | B14402 | | 4. If | If Amendment, Date of Original Filed (Month/Day/Year) | | | | | | | | | 6. Individual or Joint/Group Filing (Check Applicable | | | | | | |
| (Street) | | | | | | | | | | | | | | ' | _ine) | Forn | filed by One | Don | ortina Doro | on | |
| CAMBRI | DGE M | Α (|)2139 | | | | | | | | | | | | X | | n filed by One n filed by Mor on | | • | | |
| (City) | (S | ate) (| Zip) | | | | | | | | | | | | | | | | | | |
| | | Tabl | e I - Noi | n-Deriv | ative | Se | curiti | es Ac | quired | , Dis | posed o | f, o | r Bei | nefic | ially | Owne | ed | | | | |
| Date | | | 2. Transa Date (Month/I | Day/Year) if | | 2A. Deemed Execution Date, if any (Month/Day/Year) | | Code | Transaction Code (Instr. | | | | | | 5. Amount of Securities Beneficially Owned Following Reported | | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | | 7. Nature of Indirect Beneficial Ownership | | |
| | | | | | | | | | Code | v | Amount | | (A) or (D) | Pric | е | Transa | ted action(s) 3 and 4) | | | (Instr. 4) | |
| COMMON STOCK 07/18 | | | 07/18 | /2013 | 2013 | | S ⁽¹⁾ | | 12,000 | | D | \$5. | 18 ⁽²⁾ 12, | | ,879,020 | | D | | | | |
| COMMON STOCK | | | 07/19 | 9/2013 | | | | S ⁽¹⁾ | | 12,000 |) | D | \$5. | \$5.36 ⁽³⁾ | | 12,867,020 | | D | | | |
| COMMON STOCK | | | | | | | | | | | | | 23,488 | | | I | By 401(k) plan | | | | |
| | | Та | | | | | | | | | sed of, onvertib | | | | | wned | | | | | |
| 1. Title of Derivative Security (Instr. 3) 1. Title of Conversion or Exercise Price of Derivative Security 1. Title of Conversion Date (Month/Day/Year) 1. Title of Date (Month/Day/Year) 2. Conversion Date (Month/Day/Year) 3. Transaction Date Execution Date (Month/Day/Year) (Month/Day/Year) (Month/Day/Year) | | ed n Date, | 4. Transactior Code (Instr. 8) | | 5. Number of | | 6. Date E | 6. Date Exercisa Expiration Date (Month/Day/Yea | | 7. Title and Amount of Securities Underlying Derivative Security (Instrand 4) | | d f g | 8. Pi Deri Seci | Price of crivative curity estr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s (Instr. 4) | 0 F D 0 (I | 0. ownership orm: irect (D) r Indirect) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) | | | |
| | | | Code | | | Date Exercisa | Date E Exercisable D | | Amour or Number of Title Shares | | umber | | | | | | | | | | |

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 \$5.09 to \$5.33, 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 footnotes 2 through 4.
- 3. The price reported in column 4 is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$5.15 to \$5.45, inclusive.

/s/ Francis Reynolds 07/19/2013

** 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.