FORM 4

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

## STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

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*  REYNOLDS FRANCIS |  |   |               |      |                                  | 2. Issuer Name and Ticker or Trading Symbol INVIVO THERAPEUTICS HOLDINGS CORP. [ NVIV ] |   |          |        |   |        |                    |   |                |                      |                          | k all app<br>Dired                    | onship of Reportionship |      | X 10% C  | wner   |
|--|--|---|---------------|------|----------------------------------|---|---|----------|--------|---|--------|--------------------|---|----------------|----------------------|--------------------------|---------------------------------------|--|------|--|--|
| (Last)<br>81 LAKE  | (Fir   | , | Middle)       |      |                                  | 3. Date of Earliest Transaction (Month/Day/Year) 03/03/2014                             |   |          |        |   |        |                    |   |                |                      |                          | belov                                 |  |      | below)   | (specify   |
| (Street) SALEM (City)                                      | NI<br>(St  |   | 03079<br>Zip) |      | 4. If                            | Ame   | endme   | nt, Date | of (   | Original                                | Filed  | (Month/Da          | ay/Ye   | ear)           |                      | 6. Indi<br>Line)<br>X    | Forn                                  | n filed by One<br>n filed by Moi   | e Re | Filing (Check Applicable<br>Reporting Person<br>than One Reporting       |  |
|  | Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned   |   |               |      |                                  |   |   |          |        |   |        |                    |   |                |                      |                          |                                       |  |      |  |  |
| Date   |  |   |               | Date | ransaction<br>e<br>nth/Day/Year) |   | 2A. Deemed<br>Execution Date,<br>if any<br>(Month/Day/Year) |          | ·      | 3.<br>Transaction<br>Code (Instr.<br>8) |        |                    |   |                |                      | , 4 and Sec<br>Ber<br>Ow |                                       | 5. Amount of<br>Securities<br>Beneficially<br>Owned Following  |      | Ownership<br>m: Direct<br>or Indirect<br>Instr. 4)                       | 7. Nature<br>of Indirect<br>Beneficial<br>Ownership                |
|  |  |   |               |      |                                  |   | Code  | v        | Amount | (A) or<br>(D)                           |        | Pr                 | ice   |                | ction(s)<br>3 and 4) |                          |                                       | (Instr. 4)   |      |  |  |
| Common Stock 03/0  |  |   |               |      |                                  | 2014  |   |          |        | <b>S</b> <sup>(1)</sup>                 |        | 12,500             |   | D              | \$                   | 2.52                     | 9,7                                   | ,773,920   |      | D  |  |
| Common Stock 03/   |  |   |               |      |                                  |   |   |          |        | <b>S</b> <sup>(2)</sup>                 |        | 12,500             | )   | D              | \$2.52               |                          | 9,761,420                             |  | D    |  |  |
| Common   |  |   |               |      |                                  |   |   |          |        |   |        |                    | 23,488  |                |                      | I                        | 401K<br>Plan                          |  |      |  |  |
| Common Stock 03/05.  |  |   |               |      |                                  |   | 2014  |          |        | S <sup>(3)</sup>                        |        | 12,500             |   | D              | \$                   | 2.44                     | 9,7                                   | 48,920   |      | D  |  |
|  | Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities) |   |               |      |                                  |   |   |          |        |   |        |                    |   |                |                      |                          |                                       |  |      |  |  |
| 1. Title of<br>Derivative<br>Security<br>(Instr. 3)        | erivative   Conversion   Date   Execution Date,   Tecurity   or Exercise   (Month/Day/Year)   if any   C                                     |   |               |      |                                  | ction<br>Instr.   | of E  |          |        | i. Date E<br>Expiratio<br>Month/D       | n Date |                    | 7. Title and<br>Amount of<br>Securities<br>Underlying<br>Derivative<br>Security (In<br>and 4) |                | l<br>nstr.           | Der<br>Sec<br>(Ins       | rice of<br>ivative<br>urity<br>tr. 5) | 9. Number of<br>derivative<br>Securities<br>Beneficially<br>Owned<br>Following<br>Reported<br>Transaction<br>(Instr. 4)  |      | 10.<br>Ownership<br>Form:<br>Direct (D)<br>or Indirect<br>(I) (Instr. 4) | 11. Nature<br>of Indirect<br>Beneficial<br>Ownership<br>(Instr. 4) |
|  |  |   |               |      | Code                             | v   | (A)   | (D)      |        | )ate<br>Exercisal                       |        | Expiration<br>Date | Titl  | or<br>Nu<br>of | mbe<br>ares          |                          |                                       |  |      |  |  |

## Explanation of Responses:

- 1. All sales between \$2.41 \$2.60.
- 2. All sales between \$2.51 \$2.56.
- 3. All sales between \$2.32 \$2.54.

## Remarks

All Sold under 105B-1 Sales plan.

/s/ Francis Reynolds

03/05/2014

\*\* 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.