FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

| STATEMENT | OF | CHANGES | INI | BENEFICIAL | OWNERSHIP |
|-----------|----|---------|------|-------------------|-----------|
| SIAIEWENI | OF | CHANGES | 11.7 | DENEFICIAL | OWNERSHIP |

OMB APPROVAL OMB Number: 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* NAVARRO NICHOLAS MAXWELL (Last) (First) (Middle) 600 CRUISER LANE | | | | | 2. Issuer Name and Ticker or Trading Symbol Bacterin International Holdings, Inc. [BONE] 3. Date of Earliest Transaction (Month/Day/Year) 05/24/2013 | | | | | | NE (Ch | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director Director Difficer (give title Other (specify below) National Sales Manager | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------|----------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------|------------------------------|----------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------|--------------------------------------------------------------------|
| (Street) BELGRA | | | 59714 (Zip) | | 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | | | Line | Individual or Joint/Group Filing (Check Applicable ne) X Form filed by One Reporting Person Form filed by More than One Reporting Person | | | | | | |
| Table I - Non-Deriva 1. Title of Security (Instr. 3) 2. Transaction Date | | | | | | | 2A. Deeme Execution | ed | 3. Transaction | 4. Secu | of, or Be | ed (A) or | 5. Amou | nt of | Form | : Direct | 7. Nature of Indirect |
| (Month) | | | (Month/D | Day/Year) if any (Month/Day/Year) | | Code (Inst | Amount | (A) or (D) Price | | Owned F Reported Transact | | | or Indirect (Instr. 4) | Beneficial Ownership (Instr. 4) | | | |
| 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 | rcise (Month/Day/Year) if any if tive (Month/D | | Date, Transac | | | | ve es d ed nstr. | 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) |
| | | | | C | code | v | (A) | (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares | | | | | |
| Employee Stock Option | \$0.68 | 05/24/2013 | | | A | | 70,000 | | 05/24/2014 | 05/24/2023 | Common Stock | 70,000 | \$0 | 70,00 | 0 | D | |
| Restricted Stock Unit | (1) | 05/24/2013 | | | A | | 33,500 | | (2) | (2) | Common | 33,500 | \$0 | 33,50 | 0 | D | |

Explanation of Responses:

- 1. Each restricted stock unit represents the contingent right to receive one share of Bacterin common stock.
- 2. The restricted stock units vest on May 24, 2014.

/s/ Nick Navarro

05/29/2013 ** 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.