REPLIDYNE INC Form SC 13G/A May 11, 2007

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934 (Amendment No. 1) *

> REPLIDYNE, INC. (Name of Issuer)

COMMON STOCK, PAR VALUE \$0.001 PER SHARE (Title of Class of Securities)

> 76028W107 (CUSIP Number)

Amendment to the Schedule 13G Previously Filed for the DECEMBER 31, 2006 Event Date (Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

> [_] Rule 13d-1(b) [_] Rule 13d-1(c) Rule 13d-1(d)

tion No. of Above Person

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the reminder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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Name of Reporting Person Perseus-Soros BioPharmaceutical Fund, LP S.S. or I.R.S. Identifica-

1

| 2. | | Appropriate r of a Group | | | (a) (b) | [X] |
|--|--|----------------------------------|--|--------------|----------------------------|-------------------|
| 3. | S.E.C. Use | Only | | | | |
| 4. | Citizenshi | p or Place o | f Organization | Delaware | ====== = | |
| Number of Beneficial Owned by Reporting | ally Each | (5) (6) (7) (8) | Sole Voting Power Shared Voting Power Sole Dispositive Pow Shared Dispositive P | | 1,487, 0 1,487, | |
| 9. | | | icially Owned by Each | Reporting 1 | Person | |
| 10. | | ,487,808 | Amount in Row (9) Ex | cludes Cert | ain | [_] |
| 11. | Percent of Class Represented by Amount in Row 9 | | | | 5.5% | |
| 12. | Type of Re | porting Pers | on | | PN | |
| CUSIP NO | S.S. or I. | porting Pers R.S. Identif | ica- | | | 3 of 20 LC |
| 2. | tion No. of Above Person Check the Appropriate Box if a Member of a Group | | | | (a) (b) | [_] [x] |
| 3. | S.E.C. Use Only | | | | | |
| 4. | Citizenship or Place of Organization Delaware | | | | | |
| Number of Beneficial Owned by Reporting 9. | ally Each g Person | (8) | Sole Voting Power Shared Voting Power Sole Dispositive Pow Shared Dispositive P | ower | 1,487, 0 1,487, 0 | |
| | | ,487,808 | | | | |
| 10. | Check if t Shares | he Aggregate | Amount in Row (9) Ex | cludes Certa | ain | [_] |

| 11. | Percent of C | lass Repre | sented by Amount in Row 9 | 5.5% | | | |
|--|---|-------------------------|-----------------------------|----------------------------------|--|--|--|
| 12. | Type of Repo | rting Perso | on | 00 | | | |
| CUSIP | NO. 76028W107 | | Schedule 13G | Page 4 of 20 | | | |
| 1. | Name of Repo S.S. or I.R. tion No. of | S. Identif | ica- | und Partners, LLC | | | |
| 2. | Check the Ap | | Зох | (a) [_] (b) [X] | | | |
| 3. | S.E.C. Use O | nly | | | | | |
| 4. | Citizenship or Place of Organization Delaware | | | | | | |
| Number of Shares (5) Sole Voting Power Beneficially (6) Shared Voting Power Owned by Each (7) Sole Dispositive Power Reporting Person (8) Shared Dispositive Power | | | | 0 1,487,808 0 1,487,808 | | | |
| 9. | | | icially Owned by Each Repor | ting Person | | | |
| 10. | | 87,808 Aggregate | Amount in Row (9) Excludes | | | | |
| 11. | Percent of Class Represented by Amount in Row 9 | | | 5.5% | | | |
| 12. | Type of Repo | rting Perso | on | 00 | | | |
| CUSIP | NO. 76028W107 | | Schedule 13G | Page 5 of 20 | | | |
| 1. | Name of Repo S.S. or I.R. tion No. of | S. Identif | ica- | cipation, L.P. | | | |
| 2. | Check the Ap | propriate I | 3ox | (a) [_] (b) [X] | | | |

| 3. | S.E.C. Use | Only | | | | | |
|--------------------|--|---|--|------------------|---------|--|--|
| 1. | Citizenship | or Place | of Organization | Delaware | | | |
| Benefic Owned b | of Shares cially by Each ing Person | (5) (6) (7) (8) | Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive Power | | | | |
| 9. | Aggregate A | mount Bene | eficially Owned by Each | Reporting Person | | | |
| | 1, | 487 , 808 | | | | | |
| 10. | Check if the | e Aggregat | te Amount in Row (9) Exc | cludes Certain | | | |
| | | | | | [_] | | |
| 11. | Percent of (| Class Rep | resented by Amount in Ro | ow 9 5.5% | | | |
| 12. | Type of Repo | orting Pe | rson | PN | | | |
| CUSIP 1 | NO. 76028W107 | | Schedule 13G | Page | 6 of 20 | | |
| 1 . | S.S. or I.R | Name of Reporting Person SFM AH LLC S.S. or I.R.S. Identifica- tion No. of Above Person | | | | | |
| 2. | Check the Apif a Member | | | (a) (b) | [X] | | |
| 3. | S.E.C. Use | Only | | | | | |
| 4 . | Citizenship | Citizenship or Place of Organization Delaware | | | | | |
| Benefic Owned b | of Shares cially cy Each ing Person | (5) (6) (7) (8) | Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive Power | | | | |
| 9. | Aggregate Ar | mount Bene | eficially Owned by Each | Reporting Person | | | |
| | 1, | 487 , 808 | | | | | |
| 10. | Check if the Shares | e Aggregat | te Amount in Row (9) Exc | cludes Certain | [_] | | |
| | | | | | | | |

| 12. | Type of Report | 00 | 00 | | | | |
|---|---|--------------------------|---|----------------------------|------------|--|--|
| CUSIP NO | . 76028W107 | | Schedule 13G | Page | 7 of 20 | | |
| 1 . | Name of Report S.S. or I.R.S. tion No. of Ak | . Identif | fica- | LLC | | | |
| 2. | Check the Appr if a Member of | - | | (a) (b) | [_] [X] | | |
| 3. | S.E.C. Use Onl | | | | | | |
| 4 . | Citizenship or Place of Organization Delaware | | | | | | |
| Number of Beneficia Owned by Reporting | ally Each | (5) (6) (7) (8) | Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive Power | 0 1,487, 0 1,487, | | | |
| 9. | Aggregate Amou | | ficially Owned by Each Reportin | ng Person | | | |
| 10. | Check if the A | \ggregate | e Amount in Row (9) Excludes Ce | ertain | [_] | | |
| 11. | Percent of Cla | ass Repre | esented by Amount in Row 9 | 5.5% | | | |
| 12. | Type of Report | ing Pers | son | 00 | | | |
| CUSIP NO | . 76028W107 | | Schedule 13G | Page | 8 of 20 | | |
| 1. | Name of Reporting Person Frank H. Pearl S.S. or I.R.S. Identifica- (in the capacity description No. of Above Person | | | scribed he | rein) | | |
| 2. | Check the Appr if a Member of | _ | | (a) (b) | [X] | | |
| 3. | S.E.C. Use Onl | | | | | | |
| 4. | Citizenship or | Place o | of Organization Unite | ed States | | | |

| Benefici Owned by | - | (5) (6) (7) (8) | Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive Power | 0 1,504,3 0 1,504,3 | |
|---------------------------------|--|--------------------------------|--|-------------------------------|------------|
| 9. | Aggregate Amo | unt Bene | ficially Owned by Each Repo | rting Person | |
| | 1,50 | 4,121* | | | |
| 10. | | Aggregat | e Amount in Row (9) Exclude | s Certain | |
| | Shares | | | | [_] |
| 11. | Percent of Cl | ass Repr | esented by Amount in Row 9 | 5.6%* | |
| 12. | Type of Repor | IN | | | |
| exercise Company stock op | of stock opt and a senior a tions are held | ions is dvisor t for the | 313 shares of common sto sued to Christopher D. Ea o Perseus-Soros BioPharmac benefit of an entity contr tical Fund, LP. | rl, a directo eutical Fund | or of the |
| CUSIP NO | . 76028W107 | | Schedule 13G | Page | 9 of 20 |
| 1. | Name of Repor S.S. or I.R.S tion No. of A | . Identi | fica- (in the capacity | described here | ein) |
| 2. | Check the App if a Member o | - | | (a) (b) | [_] [X] |
| 3. | S.E.C. Use On | ly | | | |
| 4. | Citizenship o | r Place | of Organization U | nited States | |
| Benefici Owned by | _ | (5) (6) (7) (8) | Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive Power | 0 1,504,3 0 1,504,3 | |
| 9. | Aggregate Amo | unt Bene | ficially Owned by Each Repo | rting Person | |
| | 1,50 | 4,121* | | | |
| 10. | Check if the | Aggregat | e Amount in Row (9) Exclude | s Certain | |
| | Shares | - | | | [_] |
| 11. | Percent of Cl | ass Repr | esented by Amount in Row 9 | 5.6%* | |

| 12. | Type of Reporti | ng Pers | on | | IA | |
|--|--|--------------------------------|--|--------------------------------|----------------------------|---------------------|
| Company a stock opt | of stock option adv | ons iss visor to for the | 13 shares of c ued to Christop Perseus-Soros benefit of an en ical Fund, LP. | her D. Earl, BioPharmaceuti | a direct cal Fund | or of the |
| CUSIP NO | . 76028W107 | | Schedule 13G | | Page | 10 of 20 |
| 1. | Name of Reporti S.S. or I.R.S. tion No. of Abo | Identif | ica- | Fund Manageme | nt LLC | |
| 2. | Check the Approif a Member of | | | | (a) (b) | [_] [x] |
| 3. | S.E.C. Use Only | 7 | | | | |
| 4. | Citizenship or | Place o | f Organization | Delawa | are | |
| Number of Beneficial Owned by Reporting | ally Each | (5) (6) (7) (8) | Sole Voting Pow Shared Voting P Sole Dispositiv Shared Disposit | ower e Power | 0 1,504, 0 1,504, | |
| 9. | Aggregate Amour | nt Benef | icially Owned by | Each Reporting | g Person | |
| | 1,504, | 121* | | | | |
| 10. | | ggregate | Amount in Row (| 9) Excludes Ce | rtain | |
| | Shares | | | | | [_] |
| 11. | Percent of Clas | ss Repre | sented by Amount | in Row 9 | 5.6%* | |
| 12. | Type of Reporti | ng Pers | on | | 00; IA | |
| exercise Company a stock opt | of stock option adv | ons iss visor to for the | 13 shares of c ued to Christop Perseus-Soros benefit of an en ical Fund, LP. | her D. Earl, BioPharmaceuti | a direct cal Fund | or of the , LP. The |

EXPLANATORY NOTE: This Amendment No. 1 is being filed to correct the number of shares of Common Stock (as defined below) each of the Reporting Persons may be deemed to beneficially own, as originally reported in the Reporting Persons initial 13G filing, filed with the Securities and Exchange Commission on February 14, 2007 (the "Initial 13G"). The Initial 13G inadvertently omitted 119,426 shares of Common Stock owned by Perseus-Soros BioPharmaceutical Fund, LP. Each of the other Reporting Persons may also be deemed to beneficially own such shares.

Item 1. (a) NAME OF ISSUER

Replidyne, Inc. (the "Company").

(b) ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES

1450 Infinite Drive Louisville, CO 80027

Item 2. (a) NAMES OF PERSONS FILING

This Statement is being filed on behalf of each of the following persons (collectively, the "Reporting Persons")

- (i) Perseus-Soros BioPharmaceutical Fund, LP, a Delaware limited partnership ("Perseus-Soros");
- (ii) Perseus-Soros Partners, LLC, a Delaware limited liability company ("PSP GP" and general partner of Perseus-Soros);
- (iii) Perseus BioTech Fund Partners, LLC, a Delaware limited liability company ("PBFP Partners" and managing member of PSP GP);
- (iv) SFM Participation, L.P., a Delaware limited
 partnership ("SFM Participation" and managing member
 of PSP GP);
- (v) SFM AH LLC, a Delaware limited liability company ("SFM AH" and general partner of SFM Participation);
- (vi) Perseuspur, LLC, a Delaware limited liability company ("Perseuspur" and managing member of PBFP Partners);
- (viii) Mr. George Soros ("Mr. Soros" and Chairman of SFM LLC); and
- (ix) Soros Fund Management LLC, a Delaware limited liability company ("SFM LLC" and the sole managing member of SFM AH).

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(b) ADDRESS OF PRINCIPAL BUSINESS OFFICE

The address of the principal business offices of (i) Perseus-Soros and (ii) PSP, GP is 888 Seventh Avenue, 30th Floor, New York, NY 10106.

The address of the principal business offices of (i) PBFP Partners, (ii) Perseuspur and (iii) Mr. Pearl is 2099 Pennsylvania Ave., N.W., Suite 900, Washington, D.C. 20006.

The address of the principal business offices of (i) SFM Participation, (ii) SFM AH, (iii) SFM LLC and (iv) Mr. Soros is 888 Seventh Avenue, 33rd Floor, New York, NY 10106.

(c) CITIZENSHIP

- (i) Perseus-Soros a Delaware limited partnership
- (ii) PSP GP a Delaware limited liability company
- (iii) PBFP Partners a Delaware limited liability company
- (iv) SFM Participation a Delaware limited partnership
- (v) SFM AH a Delaware limited liability company
- (vi) Perseuspur Delaware limited liability company
- (vii) Mr. Pearl United States
- (viii) Mr. Soros United States
- (ix) SFM LLC a Delaware limited liability company

(d) TITLE OF CLASS OF SECURITIES

Common Stock, par value \$0.001 per share (the "Common Stock"
or "Shares")

(e) CUSIP NUMBER

76028W107

Information contained herein concerning SFM Participation, SFM AH, SFM LLC and Mr. Soros has been provided by SFM LLC. Perseus-Soros, PSP GP, PBFP Partners, Perseuspur and Mr. Pearl assume no responsibility for such information. Information contained herein concerning PBFP Partners, Perseuspur and Mr. Pearl has been provided by each such Reporting Person. Perseus-Soros, PSP GP, SFM Participation, SFM AH, SFM LLC and Mr. Soros assume no responsibility for such information.

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Item 3. This statement is not being filed pursuant to either Rule 13d-1 (b) or 13d-2 (b) or (c).

Item 4. OWNERSHIP.

(a) AMOUNT BENEFICIALLY OWNED:

Each of the Reporting Persons other than Mr. Soros, Mr. Pearl and SFM LLC may be deemed to beneficially own 1,487,808

Shares.

Each of Mr. Soros, Mr. Pearl and SFM LLC may be deemed to beneficially own an aggregate of 1,504,121 Shares, including 16,313 shares of common stock issuable upon the exercise of stock options. The stock options are held for the benefit of an entity controlled by affiliates of the Perseus-Soros BioPharmaceutical Fund, LP.

(b) PERCENTAGE OWNED:

Based on calculations made in accordance with Rule 13d-3(d), and there being 27,010,506 Shares outstanding as of April 26, 2007, each of the Reporting Persons, other than Mr. Soros, Mr. Pearl and SFM LLC, may be deemed to beneficially own approximately 5.5% of the outstanding Common Stock. Based on the same calculations, Mr. Soros, Mr. Pearl and SFM LLC may be deemed to beneficially own 5.6% of the outstanding common stock.

(c) NUMBER OF SHARES AS TO WHICH SUCH PERSON HAS:

- (i) Each of Perseus-Soros and PSP GP may be deemed to have sole power to direct the voting and disposition of the 1,487,808 Shares beneficially owned by Perseus-Soros.
- (ii) By virtue of the relationships between and among the Reporting Persons as described in Item 2, each of:
 - (a) PBFP Partners, Perseuspur, SFM Participation and SFM AH may be deemed to share the power to direct the voting and disposition of 1,487,808 Shares beneficially owned by Perseus-Soros and (b) each of Mr. Soros, Mr. Pearl and SFM LLC may be deemed to share the power to direct the voting and disposition of the 1,487,808 Shares beneficially owned by Perseus-Soros, and the 16,313 Shares issuable upon the exercise of stock options. The stock options are held for the benefit of an entity controlled by affiliates of the Perseus-Soros BioPharmaceutical Fund, LP.

Item 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS

Not applicable.

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Item 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON

The partners of Perseus-Soros have the right to participate in the receipt of dividends from, or proceeds from the sale of, the securities held for the account of Perseus-Soros in accordance with their ownership interests in Perseus-Soros.

Item 7. IDENTIFICATION AND CLASSIFICATION OF SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY

Not applicable.

Item 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP Not applicable.

Item 9. NOTICE OF DISSOLUTION OF GROUP Not applicable.

Item 10. CERTIFICATION

Not applicable.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

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SIGNATURES

After reasonable inquiry and to the best of our knowledge and belief, the undersigned certify that the information set forth in this statement is true, complete and correct.

Dated as of May 11, 2007

PERSEUS-SOROS BIOPHARMACEUTICAL FUND, LP

By: Perseus-Soros Partners, LLC General Partner

By: SFM Participation, L.P. Managing Member

By: SFM AH LLC General Partner

By: Soros Fund Management LLC Managing Member

By: /s/ Jodye M. Anzalotta

Name: Jodye M. Anzalotta

Title: Assistant General Counsel

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PERSEUS-SOROS PARTNERS, LLC

By: SFM Participation, L.P. Managing Member

By: SFM AH LLC General Partner

By: Soros Fund Management LLC Managing Member

By: /s/ Jodye M. Anzalotta

Name: Jodye M. Anzalotta Title: Assistant General Counsel

PERSEUS BIOTECH FUND PARTNERS, LLC

By: Perseuspur, LLC Member

By: /s/ Kenneth M. Socha

Name: Kenneth M. Socha

Title: Senior Managing Director

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SFM PARTICIPATION, L.P.

By: SFM AH LLC General Partner

By: Soros Fund Management LLC Managing Member

By: /s/ Jodye M. Anzalotta

Name: Jodye M. Anzalotta

Title: Assistant General Counsel

SFM AH LLC

By: Soros Fund Management LLC Managing Member

By: /s/ Jodye M. Anzalotta

Name: Jodye M. Anzalotta

Title: Assistant General Counsel

PERSEUSPUR, LLC

By: /s/ Kenneth M. Socha

Name: Kenneth M. Socha

Title: Senior Managing Director

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MR. FRANK H. PEARL

By: /s/ Kenneth M. Socha

Name: Kenneth M. Socha Title: Attorney-in-Fact

MR. GEORGE SOROS

By: /s/ Jodye M. Anzalotta

Name: Jodye M. Anzalotta Title: Attorney-in-Fact

SOROS FUND MANAGEMENT LLC

By: /s/ Jodye M. Anzalotta

Name: Jodye M. Anzalotta

Title: Assistant General Counsel

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EXHIBIT INDEX

Exhibit 1. Joint Filing Agreement as required by Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended (previously filed).

Exhibit 2. Power of Attorney, dated June 16, 2005 appointing each of

Armando T. Belly, Jodye Anzalotta, Maryann Canfield, Jay Schoenfarber and Robert Soros as Attorney-In-Fact for George Soros (previously filed).

Exhibit 3. Power of Attorney, dated May 9, 2007, appointing Kenneth M. Socha and Rona Kennedy as Attorney-in-Fact for Frank H. Pearl.

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EXHIBIT 3

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that I, FRANK H. PEARL, hereby make, constitute and appoint each of Kenneth M. Socha and Rona Kennedy, each of them acting singly, as my agent and attorney-in-fact for the purpose of executing in my name, (a) in my personal capacity or (b) in my capacity as Chairman of, member of or in other capacities with Perseus, L.L.C. ("PERSEUS") and each of its affiliates or entities advised by me or Perseus, all documents, certificates, instruments, statements, filings and agreements ("DOCUMENTS") to be filed with or delivered to any foreign or domestic governmental or regulatory body or required or requested by any other person or entity pursuant to any legal or regulatory requirement relating to the acquisition, ownership, management or disposition of securities, futures contracts, or other investments, and any other documents relating or ancillary thereto, including, but not limited to, all documents relating to filings with the Commodities Futures Trading Commission and National Futures Association, the United States Securities and Exchange Commission (the "SEC") pursuant to the Commodities Exchange Act and the Securities Act of 1933 or the Securities Exchange Act of 1934 (the "Act") and the rules and regulations promulgated thereunder, including all documents relating to the beneficial ownership of securities required to be filed with the SEC pursuant to Section 13(d) or Section 16(a) of the Act and information statements on Form 13F required to be filed with the SEC pursuant to Section 13(f) of the Act.

All past acts of either attorney-in-fact in furtherance of the foregoing are hereby ratified and confirmed.

This power of attorney shall be valid from the date hereof until revoked by me.

The Power of Attorney dated as of April 9, 2003 is hereby revoked by me effective as of the date hereof.

IN WITNESS WHEREOF, I have executed this instrument as of the $9 \, \text{th}$ day of May, 2007.

/s/ Frank H. Pearl

FRANK H. PEARL