

Cardiovascular Systems Inc  
Form SC 13G/A  
March 17, 2009

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

**SCHEDULE 13G**

(Rule 13d-102)

Under the Securities Exchange Act of 1934

(Amendment No. 3)\*

**CARDIOVASCULAR SYSTEMS, INC.**  
**(f/k/a Replidyne, Inc.)**

\_\_\_\_\_  
(Name of Issuer)

**Common Stock, par value \$0.001 per share**  
(Title of Class of Securities)

**14161906**  
(CUSIP Number)

**February 25, 2009**  
(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(d)
- Rule 13d-1(d)
- Rule 13d-1(d)

\*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 remainder 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).



1 NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

**Perseus-Soros BioPharmaceutical Fund, LP**

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)

(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

**Delaware**

5 SOLE VOTING POWER

**148,780**

NUMBER OF  
SHARES  
BENEFICIALLY  
OWNED BY  
EACH  
REPORTING  
PERSON

6

SHARED VOTING POWER

**-0-**

7

SOLE DISPOSITIVE POWER

**148,780**

8

SHARED DISPOSITIVE POWER

**-0-**

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

**148,780**

10 CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

11

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PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**1.1%**

12 TYPE OF REPORTING PERSON

**PN**

---

1 NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

**Perseus-Soros Partners, LLC**

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(b)

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**OO**

---

1 NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

**Perseus BioTech Fund Partners, LLC**

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)

(b)

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**Delaware**

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1 NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

**SFM Participation, L.P.**

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)  O

(b)  X

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**PN**

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**SFM AH LLC**

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

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1 NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

**Perseuspur, L.L.C.**

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)  O

(b)  X

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12 TYPE OF REPORTING PERSON\*

**OO**

---

1 NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

**Frank H. Pearl** (in the capacity described herein)

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)

(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

**United States**

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12 TYPE OF REPORTING PERSON

**IN**

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CUSIP No. 14161906  
SCHEDULE 13G

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1 NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

**George Soros** (in the capacity described herein)

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)

(b)

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United States

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12 TYPE OF REPORTING PERSON

**IA**

---

1 NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

**Soros Fund Management LLC**

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)  O

(b)  X

3 SEC USE ONLY

4 CITENZSHIP OR PLACE OF ORGANIZATION

**Delaware**

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**1.1%**

12 TYPE OF REPORTING PERSON

**OO, IA**

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**Item 1.** (a) Name of Issuer

Cardiovascular Systems, Inc. (f/k/a Replidyne, Inc.) (the "Company").

(b) Address of Issuer's Principal Executive Offices

651 Campus Drive

St. Paul, MN 55112

**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, L.L.C., a Delaware limited liability company ("Perseuspur" and managing member of PBFP Partners);
  - (vii) Mr. Frank H. Pearl ("Mr. Pearl" and managing member of Perseuspur);
  - (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).
-

(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 – a 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

14161906

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.

**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:

As of February 25, 2009, each of the Reporting Persons may be deemed to beneficially own 148,780 Shares.

(b) Percentage Owned:

Based on calculations made in accordance with Rule 13d-3(d), and there being 13,738,660 Shares outstanding as of March 10, 2009, each of the Reporting Persons may be deemed to beneficially own approximately 1.1% of the outstanding Common Stock, as of February 25, 2009.

(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 148,780 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 the Reporting Persons other than Perseus-Soros and PSP GP may be deemed to share the power to direct the voting and disposition of 148,780 Shares beneficially owned by Perseus-Soros.

**Item 5.** Ownership of Five Percent or Less of a Class

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities check the following box x.

**Item 6.** Ownership of More than Five Percent on Behalf of Another Person

Not applicable.

**Item 7.** Identification and Classification of Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company

Not applicable.

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**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 March 17, 2009

**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/ Jay Schoenfarber  
Name: Jay Schoenfarber

Title: Assistant General Counsel

**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/ Jay Schoenfarber  
Name: Jay Schoenfarber

Title: Assistant General Counsel

**PERSEUS BIOTECH FUND PARTNERS, LLC**

By: Perseuspur, L.L.C.  
Managing Member

By: Frank H. Pearl  
Managing Member

By: /s/ Kenneth M. Socha  
Name: Kenneth M. Socha

Title: Attorney-in-Fact for Mr. Pearl

**SFM PARTICIPATION, L.P.**

By: SFM AH LLC  
General Partner

By: Soros Fund Management LLC  
Managing Member

By: /s/ Jay Schoenfarber  
Name: Jay Schoenfarber  
  
Title: Assistant General Counsel

**SFM AH LLC**

By: Soros Fund Management LLC  
Managing Member

By: /s/ Jay Schoenfarber  
Name: Jay Schoenfarber  
  
Title: Assistant General Counsel

**PERSEUSPUR, L.L.C.**

By: Frank H. Pearl  
Managing Member

By: /s/ Kenneth M. Socha  
Name: Kenneth M. Socha  
  
Title: Attorney-in-Fact for Mr. Pearl



**MR. FRANK H. PEARL**

By: /s/ Kenneth M. Socha  
Name: Kenneth M. Socha

Title: Attorney-in-Fact for Mr. Pearl

**MR. GEORGE SOROS**

By: /s/ Jay Schoenfarber  
Name: Jay Schoenfarber

Title: Attorney-in-Fact for Mr. Soros

**SOROS FUND MANAGEMENT LLC**

By: /s/ Jay Schoenfarber  
Name: Jay Schoenfarber

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 December 6, 2007, appointing each of Kenneth M. Socha and Teresa Y. Bernstein as Attorney-in-Fact for Frank H. Pearl (previously filed).