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

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**SCHEDULE 13G**

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

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**Mirna Therapeutics, Inc.**  
(Name of Issuer)

**\$0.001 par value common stock**  
(Title of Class of Securities)

**60470J103**  
(CUSIP Number)

**October 5, 2015**  
(Date of Event Which Requires Filing of this Statement)

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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)

\* The information required in 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).

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1.	<b>Names of Reporting Persons.</b>  Cancer Prevention and Research Institute of Texas  <b>I.R.S. Identification Nos. of above persons (entities only).</b>  EIN 26-2482534
2.	<b>Check the Appropriate Box if a Member of a Group (See Instructions)</b> (a) <input type="checkbox"/> (b) <input type="checkbox"/>
3.	<b>SEC Use Only</b>
4.	<b>Citizenship or Place of Organization</b>  Texas
<b>Number of Shares Beneficially Owned by Each Reporting Person With</b>	5. <b>Sole Voting Power</b>  2,395,010
	6. <b>Shared Voting Power</b>  -0-
	7. <b>Sole Dispositive Power</b>  2,395,010
	8. <b>Shared Dispositive Power</b>  -0-
9.	<b>Aggregate Amount Beneficially Owned by Each Reporting Person</b>  2,395,010
10.	<b>Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)</b> <input type="checkbox"/>
11.	<b>Percent of Class Represented by Amount in Row (9)</b>  11.9% (See Item 4)
12.	<b>Type of Reporting Person (See Instructions)</b>  OO

**Item 1.**

- (a) Name of Issuer:  
Mirna Therapeutics, Inc. (the "Issuer")
- (b) Address of Issuer's Principal Executive Offices:  
2150 Woodward Street, Suite 100  
Austin, Texas 78744

**Item 2.**

- (a) Name of Person(s) Filing:  
Cancer Prevention and Research Institute of Texas (the "Reporting Person")
- (b) Address of Principal Business Office or, if none, Residence:  
1701 N. Congress Avenue, Suite 6-127  
Austin, Texas 78701
- (c) Citizenship:  
Texas
- (d) Title of Class of Securities:  
Common stock, \$0.001 par value per share (the "Common Stock")
- (e) CUSIP Number:  
60470J103

**Item 3. If this statement is filed pursuant to §§240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:**

Not applicable.

**Item 4. Ownership.**

Provide the following information regarding the aggregate number and percentage of the class of securities of the Issuer identified in Item 1.

- (a) Amount beneficially owned: 2,395,010
- (b) Percent of class: 11.9% (1)
- (c) Number of shares as to which the person has:
  - (i) Sole power to vote or to direct the vote: 2,395,010
  - (ii) Shared power to vote or to direct the vote: -0-
  - (iii) Sole power to dispose or to direct the disposition of: 2,395,010
  - (iv) Shared power to dispose or to direct the disposition of: -0-

(1) This percentage is calculated on the basis of 20,056,726 shares of Common Stock outstanding after the Issuer's initial public offering and the concurrent private placement, as reported in the Issuer's Prospectus filed pursuant to Rule 424(b)(4) with the Securities and Exchange Commission on October 1, 2015.

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

Not applicable.

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

Not applicable.

**Item 7. Identification and Classification of the 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.**

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the Issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with a nomination under §240.14a-11.

**SIGNATURE**

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

Dated: October 8, 2015

Cancer Prevention and Research Institute of Texas

By: /s/ Wayne R. Roberts

Name: Wayne R. Roberts

Title: Chief Executive Officer