

As filed with the Securities and Exchange Commission on October 5, 2004.

Registration No. 333-

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# SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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## FORM S-1

REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

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### Theravance, Inc.

(Exact Name of Registrant as Specified in its Charter)

**Delaware**  
(State or Other Jurisdiction of  
Incorporation or Organization)

**2834**  
(Primary Standard Industrial  
Classification Code Number)

**94-3265960**  
(I.R.S. Employer  
Identification Number)

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**901 Gateway Boulevard**  
**South San Francisco, California 94080**  
**(650) 808-6000**  
(Address, including zip code, and telephone number, including  
area code, of registrant's principal executive offices)

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**Rick E Winningham**  
**Chief Executive Officer**  
**901 Gateway Boulevard**  
**South San Francisco, California 94080**  
**(650) 808-6000**  
(Name, address, including zip code, and telephone number, including area code, of agent for service)

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#### Copies to:

Robert V. Gunderson, Jr., Esq.  
Jay K. Hachigian, Esq.  
David T. Young, Esq.  
John F. Dietz, Esq.  
Gunderson Dettmer Stough  
Villeneuve Franklin & Hachigian, LLP  
155 Constitution Drive  
Menlo Park, CA 94025  
(650) 321-2400

Alan F. Denenberg, Esq.  
Martin A. Wellington, Esq.  
Davis Polk & Wardwell  
1600 El Camino Real  
Menlo Park, CA 94025  
(650) 752-2000

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**Approximate date of commencement of proposed sale to the public:**  
**As soon as practicable after the effective date of this registration statement.**

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If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended, check the following box. //

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. /X/ 333-116384

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. //

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. //

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. //

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## CALCULATION OF REGISTRATION FEE

| Title of Each Class of Securities to be Registered | Amount to be Registered(1) | Proposed Maximum Aggregate Offering Price Per Share(2) | Proposed Maximum Aggregate Offering Price(2) | Amount of Registration Fee(3) |
|--|----------------------------|--|--|-------------------------------|
| Common Stock, \$.01 par value                      | 1,092,500                  | \$16.00  | \$17,480,000                                 | \$2,214.72                    |

- (1) Includes 142,500 shares that the Underwriters have the option to purchase to cover over-allotments, if any.
- (2) Based on the public offering price.
- (3) This amount has been paid and is in addition to the registration fee of \$12,122.66 also paid to register 5,980,000 shares to be sold to the public at \$16.00 per share pursuant to Registration Statement No. 333-116384.

## **EXPLANATORY NOTE**

This Registration Statement is being filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended. The contents of the Registration Statement on Form S-1 (Reg. No. 333-116384) filed by Theravance, Inc. (the "Company") with the Securities and Exchange Commission (the "Commission") on June 10, 2004, as amended, including the exhibits thereto, and declared effective by the Commission on October 4, 2004, are incorporated herein by reference. This Registration Statement also contains Exhibits 5.1 and 23.1.

## **UNDERTAKING**

The registrant hereby undertakes and agrees to pay the registration fee for the securities registered hereunder as soon as practicable (but in any event no later than the close of the next business day following the filing of the Registration Statement). The registrant has given irrevocable wiring instructions to its bank to wire the registration fee to the Commission immediately and it will confirm receipt of such instructions by the bank during regular business hours. Registrant will have sufficient funds in its account to cover the amount of the filing fee.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in South San Francisco, California on October 5, 2004.

THERAVANCE, INC.

By: \*

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Rick E Winningham  
*Chief Executive Officer*

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed below by the following persons in the capacities and on the dates indicated.

| Name   | Title  | Date            |
|--|--|-----------------|
| <div>*<br/>Rick E Winningham</div>   | Chief Executive Officer and Director (principal executive officer)   | October 5, 2004 |
| <div>*<br/>Marty Glick</div>   | Chief Financial Officer (principal financial and accounting officer) | October 5, 2004 |
| <div>*<br/>P. Roy Vagelos</div>  | Director   | October 5, 2004 |
| <div>*<br/>Julian C. Baker</div>   | Director   | October 5, 2004 |
| <div>*<br/>Jeffrey M. Drazan</div>   | Director   | October 5, 2004 |
| <div>*<br/>Robert V. Gunderson, Jr.</div>  | Director   | October 5, 2004 |
| <div>*<br/>Arnold J. Levine</div>  | Director   | October 5, 2004 |
| <div>*<br/>Ronn C. Loewenthal</div>  | Director   | October 5, 2004 |
| <div>*<br/>Michael Mullen</div>  | Director   | October 5, 2004 |
| <div>*<br/>William H. Waltrip</div>  | Director   | October 5, 2004 |
| <div>*<br/>George M. Whitesides</div>  | Director   | October 5, 2004 |
| <div>*<br/>William D. Young</div>  | Director   | October 5, 2004 |
| <div>*By: <div>/s/ BRADFORD J. SHAFER</div><div>Bradford J. Shafer<br/><i>Attorney-in-fact</i></div></div> |  |                 |

## EXHIBIT INDEX

| Exhibit No. | Exhibit Index   |
|-------------|---|
| 5.1         | Opinion of Gunderson Dettmer Stough Villeneuve Franklin & Hachigan, LLP   |
| 23.2        | Consent of Independent Registered Public Accounting Firm  |
| 24.1*       | Power of Attorney of certain directors and officers of the Registrant (included on page II-8 of the Registration Statement on Form S-1, 333-116384) |
| <hr/>       |   |
| *           | Incorporated by reference to the Company's Registration Statement on Form S-1, as amended, Registration No. 333-116384.                             |
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## QuickLinks

[EXPLANATORY NOTE](#)

[UNDERTAKING](#)

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October 4, 2004

Theravance, Inc.  
901 Gateway Boulevard  
South San Francisco, CA 94080

Re: 462(b) Registration Statement on Form S-1

Ladies and Gentlemen:

At your request, we have examined the Registration Statement on Form S-1 to which this letter is attached as Exhibit 5.1 (the "462(b) Registration Statement") filed by Theravance, Inc. (the "Company") with the Securities and Exchange Commission ("Commission") pursuant to Rule 462(b) promulgated under the Securities Act of 1933, as amended ("Securities Act") and relating to the registration under the Securities Act of an additional 1,092,500 shares of the Company's common stock, par value \$0.01 per share (the "Additional Shares"). The Rule 462(b) Registration Statement to be used for the offer and sale of the Additional Shares is filed with the Commission in connection with the offering described in the Registration Statement on Form S-1 (Registration No. 333-116384) filed with the Commission on June 10, 2004, as amended, which was declared effective by the Commission on October 4, 2004.

We are familiar with the proceedings taken by the Company in connection with the authorization of the Additional Shares. We have examined such documents, records and matters of law as we have deemed necessary for purposes of this opinion. In our examination, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals and the conformity to originals of all documents submitted to us as certified or reproduced copies.

Based upon the foregoing, and assuming, without further inquiry that the consideration for the Additional Shares to be issued will be received prior to the issuance thereof, and when the 462(b) Registration Statement becomes effective, upon which our opinions are expressly conditioned, we opine as follows:

If, as and when such shares of Common Stock have been issued and sold in conformity with and pursuant to the 462(b) Registration Statement, such Additional Shares will be legally issued, fully paid and non-assessable.

We consent to the filing of this opinion as an exhibit to the 462(b) Registration Statement.

Very truly yours,

/s/ GUNDERSON DETTMER STOUGH VILLENEUVE FRANKLIN &  
HACHIGIAN, LLP

GUNDERSON DETTMER STOUGH VILLENEUVE FRANKLIN &  
HACHIGIAN, LLP

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QuickLinks

[EXHIBIT 5.1](#)



**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement on Form S-1 filed on October 5, 2004 of Theravance, Inc. of our report dated May 21, 2004 (except for Note 14 and paragraph 39 of Note 2, as to which the dates are May 27, 2004 and September 27, 2004, respectively) with respect to the consolidated financial statements of Theravance, Inc. included in Amendment No. 7 to its Registration Statement (Form S-1 No. 333-116384) and related Prospectus for the registration of shares of its common stock.

/s/ ERNST & YOUNG LLP

Palo Alto, California  
October 4, 2004

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## QuickLinks

[Exhibit 23.2](#)

[Consent of Independent Registered Public Accounting Firm](#)