

**Prospectus Supplement No. 6
Dated July 12, 2004
To Prospectus Dated July 23, 2003**

**Rigel Pharmaceuticals, Inc.
9,583,331 Shares
Common Stock**

This prospectus supplement supplements the prospectus, dated July 23, 2003, of Rigel Pharmaceuticals, Inc. relating to the offering and sale by selling stockholders of Rigel (or by donees, pledgees, transferees and other successors in interest that receive such shares as a gift, pledge, partnership distribution or other non-sale transfer) of 9,583,331 shares of our common stock. This prospectus supplement should be read in conjunction with the prospectus, and is qualified by reference to the prospectus, except to the extent that the information presented herein supercedes the information contained in the prospectus. The term "Selling Stockholders" as used in the prospectus shall be deemed to include the selling stockholders identified in the table below. This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the prospectus, including any amendments or supplements thereto.

Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page 1 of the prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

This prospectus supplement is being filed in connection with the transfer of shares held by Wyeth identified in Prospectus Supplement No. 5 dated June 28, 2004, as a selling stockholder. No additional shares of Rigel common stock are being offered for resale hereunder. The table appearing on pages 16 and 17 of the prospectus under the caption "Selling Stockholders" is supplemented and amended to include the following stockholders in addition to those identified in the prospectus:

Name and Address of Beneficial Owner***	Beneficial Ownership Before Offering		Shares Offered	Beneficial Ownership After Offering	
	Shares	Percent*		Shares	Percent*
Wyeth	0	**	0	0	**
AH Investments Limited	16,398	**	16,398	0	**
Total	16,398		16,398		

* Percentage calculations based on 18,263,391 shares of our common stock that were issued and outstanding as of July 9, 2004.

** Less than 1%

*** Addresses that are not listed are c/o MPM Capital, 601 Gateway Blvd., Suite 350, South San Francisco, CA 94080.

QuickLinks

[Prospectus Supplement No. 6 Dated July 12, 2004 To Prospectus Dated July 23, 2003 Rigel Pharmaceuticals, Inc. 9,583,331 Shares Common Stock](#)