

SUPPLEMENT NO. 1 DATED JULY 9, 2018 TO PROSPECTUS SUPPLEMENT DATED MAY 8, 2018 (To Prospectus dated November 23, 2015)

IsoRay, Inc.



\$8,500,000
Common Stock

This Supplement No. 1 to Prospectus Supplement supplements and amends the Prospectus Supplement dated May 8, 2018 (the Prospectus Supplement). This Supplement No. 1 to Prospectus Supplement should be read in conjunction with the Prospectus Supplement and the Prospectus dated November 23, 2015. This Supplement No. 1 to Prospectus Supplement supplements and amends only those sections of the Prospectus Supplement listed in this Supplement No. 1; all other sections of the Prospectus Supplement remain as is.

On May 8, 2018, we entered into a sales agreement (Sales Agreement), with H.C. Wainwright & Co., LLC (Wainwright) relating to shares of our common stock offered by the Prospectus Supplement dated May 8, 2018. In accordance with the terms of the Sales Agreement entered into on May 8, 2018, we could offer and sell shares of our common stock having an aggregate offering price of up to \$8.5 million from time to time through Wainwright pursuant to at-the-market transactions (ATM). As of the date of this Supplement No. 1 to Prospectus Supplement, we have sold an aggregate of 980,918 shares of our common stock pursuant to the Sales Agreement for an aggregate gross proceeds of \$487,353.

The purpose of this Supplement No. 1 to Prospectus Supplement is to suspend the ATM and to terminate the continuous offering by us under the Prospectus Supplement effective on July 9, 2018.

The date of this Supplement No. 1 to Prospectus Supplement is July 9, 2018.

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ABOUT THIS SUPPLEMENT TO PROSPECTUS SUPPLEMENT

A registration statement on Form S-3 (File No. 333-206559) utilizing a shelf registration process relating to the securities described in this Supplement No. 1 to Prospectus Supplement has been filed with the Securities and Exchange Commission (SEC), and was declared effective on November 23, 2015. Under this shelf registration process, of which this offering is a part, we were permitted to, from time to time, sell up to \$8.5 million of common stock.

You should rely only on the information contained in or incorporated by reference into this Supplement No. 1 to Prospectus Supplement, Prospectus Supplement, and the accompanying prospectus. We have not, and Wainwright has not, authorized anyone to provide you with information that is different. This Supplement No. 1 to Prospectus Supplement is not an offer to sell or solicitation of an offer to buy these securities in any circumstances under which the offer or solicitation is unlawful. You should not assume that the information we have included in this Supplement No. 1 to Prospectus Supplement Prospectus Supplement, or the accompanying prospectus is accurate as of any date other than the date of this Supplement No. 1 to Prospectus Supplement, Prospectus Supplement, or the accompanying prospectus, respectively, or that any information we have incorporated by reference is accurate as of any date other than the date of the document incorporated by reference, regardless of the time of delivery of this Supplement No. 1 to Prospectus Supplement or of any of our securities. It is important for you to read and consider all information contained in this Supplement No. 1 to Prospectus Supplement, Prospectus Supplement, and the accompanying prospectus, including the documents incorporated by reference herein and therein, in making your investment decision. You should also read and consider the information in the documents we have referred you to in "Incorporation of Certain Documents by Reference".

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we file with it. This means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is considered to be a part of this prospectus supplement, and later information we file with the SEC will automatically update and supersede this information. The following documents filed with the SEC (in each case, under our Commission File No. 001-33407) are incorporated by reference in this prospectus supplement:

- ? Annual Report on Form 10-K for the fiscal year ended June 30, 2017, filed on September 28, 2017;
- ? Quarterly Reports on Form 10-Q for the fiscal quarters ended September 30, 2017, December 31, 2017 and March 31, 2018, filed on November 14, 2017, February 9, 2018, and May 4, 2018, respectively;
- ? Current Reports on Form 8-K filed on June 30, 2017, July 7, 2017, August 31, 2017, September 28, 2017, October 10, 2017, October 27, 2017, November 14, 2017, December 19, 2017, January 4, 2018, January 8, 2018, January 24, 2018, February 8, 2018, April 20, 2018, May 3, 2018, May 8, 2018, May 11, 2018, May 21, 2018, June 5, 2018, June 19, 2018, and June 29, 2018;
- ? Proxy Statement on Schedule 14A filed on November 3, 2017 in definitive form;
- ? the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on April 12, 2007 (File No. 001-33407), including any amendments or reports filed for the purpose of updating such description;
- ? the description of our rights contained in our Registration Statement on Form 8-A filed on February 7, 2007 (File No. 000-14247), including any amendments or reports filed for the purpose of updating such description; and

- ? all documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, (i) after the date on which this registration statement that includes this Supplement No. 1 to Prospectus Supplement was initially filed with the SEC and prior to the effectiveness of such registration statement, and (ii) after the date of this Supplement No. 1 to Prospectus Supplement and prior to the termination of this offering, unless otherwise stated therein.

Notwithstanding the foregoing, information furnished under Items 2.02 and 7.01 of any Current Report on Form 8-K, including the related exhibits, is not incorporated by reference in this prospectus supplement.

Any statement contained herein or made in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained herein, or in any other subsequently filed document which also is incorporated or deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement.

We will provide without charge to each person to whom this Supplement No. 1 to Prospectus Supplement is delivered, upon oral or written request, a copy of any or all of the foregoing documents incorporated herein by reference (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the information that this Supplement No. 1 to Prospectus Supplement incorporates). Written or telephone requests should be directed to: IsoRay, Inc., 350 Hills Street, Suite 106, Richland, Washington 99354, telephone number (509) 375-1202, Attn: Corporate Secretary.

You should rely only on the information contained or incorporated by reference in this Supplement No. 1 to Prospectus Supplement. We have not authorized anyone else to provide you with different or additional information. We will not make an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this Supplement No. 1 to Prospectus Supplement is accurate as of any date other than the date of this document.