

Prospectus Supplement
(To the Prospectus dated August 19, 2021)



150,000 Shares of Preferred Stock

7,500,000 Warrants to purchase an aggregate of 7,500,000 Shares of Common Stock

(and 15,000,000 Shares of Common Stock issuable upon the conversion of such Preferred Stock and exercise of such Warrants)

This prospectus supplement updates, supersedes and amends certain information contained in the prospectus supplement dated October 13, 2021 (the “Original Supplement”), to the prospectus dated August 19, 2021 (the “Base Prospectus” and, together with the Original Supplement, the “Original Prospectus”), relating to the registered direct offering of an aggregate of 150,000 shares of our preferred stock, par value \$0.01 per share, or the Preferred Stock, and warrants to purchase up to an aggregate amount 7,500,000 shares of common stock, par value \$0.01 per share, or the Common Stock, at an original exercise price of \$2.05 per share, or the Existing Warrants. The Existing Warrants have been amended as described below under “Amendments to Existing Warrants.”

This prospectus supplement should be read in conjunction with the Original Prospectus, and is qualified by reference to the Original Prospectus, except to the extent that the information presented herein supersedes the information contained in the Original Prospectus. This prospectus supplement is not complete without, and may only be delivered or used in connection with, the Original Prospectus, including any amendments or supplements thereto. We may amend or supplement the Prospectus from time to time by filing amendments or supplements as required. You should read the entire Prospectus and any amendments or supplements carefully before you make an investment decision.

Our common stock is listed on the NASDAQ Capital Market under the symbol “OPGN.” On September 29, 2022, the last reported sale price of our common stock on the NASDAQ Capital Market was \$0.38 per share.

Investing in our securities involves a high degree of risk. See “Risk Factors” in the Original Prospectus and documents incorporated therein by reference for a discussion of such risk factors, which factors should be read carefully in connection with an investment in our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

AMENDMENTS TO EXISTING WARRANTS

This Supplement is being filed to disclose the following:

On September 30, 2022, we entered into a securities purchase agreement entered with a single institutional investor (the “Registered Direct Offering”), and the accompanying base prospectus under our registration statement on Form S-3 (Registration No. 333-258646). In connection with the Registered Direct Offering, the Company entered into a warrant amendment agreement (the “Warrant Amendment Agreement”) with the purchaser in the Registered Direct Offering under which the Company agreed to amend certain outstanding warrants to purchase up to an aggregate of 14,829,751 shares of common stock that were previously issued in 2018 and 2021 to the purchaser, with exercise prices ranging from \$2.05 to \$65.00 per share, in consideration for their purchase of approximately \$3.38 million of common stock in the Registered Direct Offering.

Under the Warrant Amendment Agreement, with respect to Existing Warrants to purchase up to an aggregate of 14,829,751 shares of common stock held by the institutional investor in the Registered Direct Offering and covered by the Warrant Amendment Agreement, the Company agreed to (i) lower the exercise price of such Existing Warrants to \$0.377 per share, (ii) provide that such Existing Warrants, as amended, will not be exercisable until six months following the closing date of the Registered Direct Offering and (iii) extend the original expiration date of such Existing Warrants to five and one-half years following the closing of the Registered Direct Offering. These amendments became effective on September 30, 2022, when the closing of the Registered Direct Offering occurred and each of such purchasers satisfied its purchase commitment to the Company.

Prospectus supplement dated September 30, 2022