

**Amendment No. 1 to Prospectus Supplement dated September 4, 2020
(To the Prospectus dated February 7, 2020)**

Up to \$22,100,000 of Common Stock

With respect to this “at-the-market” offering, or the ATM Offering, we have amended and restated our existing at-the-market offering agreement, originally dated February 11, 2020, or the Sales Agreement, with H.C. Wainwright & Co., LLC, or Wainwright, in order to add BTIG, LLC, or BTIG and, collectively with Wainwright, or the Sales Agents, as a sales agent for this ATM Offering. Under the Sales Agreement, the Sales Agents may continue to offer and sell shares of our common stock, par value \$0.01 per share, in “at-the-market” offerings (as defined in Rule 415 promulgated under the Securities Act of 1933, as amended). We are offering for sale and selling in accordance with the terms of the Sales Agreement, shares of our common stock having an aggregate offering price of up to \$22.1 million from time to time through Wainwright and BTIG acting as our sales agents. Since September 4, 2020, the date when we most recently updated this ATM Offering prospectus, we have sold \$0.8 million of shares of common stock under the Sales Agreement.

We will pay each Sales Agent a commission equal to 3.0% of the gross sales price per share of common stock issued by us and sold through it as our sales agent under the Sales Agreement. In connection with the sale of the common stock on our behalf, each Sales Agent will be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of each Sales Agent will be deemed to be underwriting commissions or discounts.

This prospectus supplement updates and amends certain information contained in the prospectus supplement, dated February 11, 2020, as supplemented by the prospectus supplement, dated September 4, 2020, or collectively, the Original Prospectus. 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.

Our common stock is listed on the NASDAQ Capital Market under the symbol “OPGN.” On November 12, 2020, the last reported sale price of our common stock on the NASDAQ Capital Market was \$1.99 per share.

Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page S-5 of this prospectus supplement, and under the same heading in the accompanying prospectus.

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.

H.C. Wainwright & Co.

BTIG

Prospectus supplement dated November 13, 2020

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Prospectus Supplement

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PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights information contained in greater detail elsewhere in this prospectus supplement, the Original Prospectus, or in other documents incorporated by reference herein or therein. Generally, when we refer to this prospectus, we are referring to this prospectus supplement and the Original Prospectus. This summary is not complete and does not contain all of the information you should consider in making your investment decision. You should read this entire prospectus carefully before making an investment in our securities. You should carefully consider, among other things, our financial statements and the related notes and the sections entitled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included elsewhere in, or incorporated by reference into, this prospectus.

Overview of OpGen

We are a precision medicine company harnessing the power of molecular diagnostics and informatics to help combat infectious disease. Along with our subsidiaries, Curetis GmbH and Ares Genetics GmbH, we are developing and commercializing molecular microbiology solutions helping to guide clinicians with more rapid and actionable information about life threatening infections to improve patient outcomes, and decrease the spread of infections caused by multidrug-resistant microorganisms, or MDROs. Our current product portfolio includes Unyvero, QuickFISH, PNA FISH, Acuitas AMR Gene Panel, Acuitas® Lighthouse, and the ARES Technology Platform including ARESdb, using NGS technology and AI-powered bioinformatics solutions for antibiotic response prediction.

Our focus is on our combined broad portfolio of products, which include high impact rapid diagnostics and bioinformatics to interpret AMR genetic data. OpGen will continue to develop and may seek FDA and other regulatory clearances or approvals, as applicable, for the Acuitas AMR Gene Panel (Isolates) diagnostic test and the Acuitas Lighthouse Software products. We will continue to offer the Acuitas AMR Gene Panel (Isolates) and Acuitas Lighthouse Software as well as the Unyvero UTI Panel as research-use-only products to hospitals, public health departments, clinical laboratories, pharmaceutical companies and contract research organizations.

Recent Developments

Our focus is on our combined broad portfolio of products, which include high impact rapid diagnostics and bioinformatics to interpret AMR genetic data. On October 13, 2020, we announced our intention to focus on the following products for lower respiratory infection, urinary tract infection and invasive joint infections:

- The Unyvero Lower Respiratory Tract, or LRT, test is the first FDA cleared test that can be used for the detection of more than 90% of common causative agents of hospitalized pneumonia. According to the National Center for Health Statistics (2018), pneumonia is a leading cause of admissions to the hospital and is associated with substantial morbidity and mortality. The Unyvero LRT automated test detects 19 pathogens within less than five hours, with approximately two minutes of hands-on time and provides clinicians with a comprehensive overview of 10 genetic antibiotic resistance markers. We are also commercializing the Unyvero LRT test for testing bronchoalveolar lavage, or BAL, specimens from patients with lower respiratory tract infections following FDA clearance received by Curetis in December 2019. The Unyvero LRT BAL automated test simultaneously detects 20 pathogens and 10 antibiotic resistance markers, and it is the first and only FDA-cleared panel that includes *Pneumocystis jirovecii*, a key fungal pathogen often found in immunocompromised patients that can be difficult to diagnose. We believe the Unyvero LRT and LRT BAL tests have the ability to help address a significant, previously unmet medical need that causes over \$10 billion in annual costs for the U.S. healthcare system, according to the Centers for Disease Control, or CDC.
- The Unyvero Urinary Tract Infection, or UTI, test, which is CE-IVD marked in Europe is currently being made available to laboratories in the U.S. as a research use only or RUO kit. The test detects a broad range of pathogens as well as antimicrobial resistance markers directly from native urine specimens. As part of our portfolio strategy update announced on October 13, 2020, we plan to proceed with the analytical validation and clinical verification and trials required for a subsequent U.S. FDA submission.

- The Unyvero Invasive Joint Infection, or IJI, test, which is a variant developed for the U.S. market based on the CE IVD marked European Unyvero ITI test, has also been selected as part of our plans to proceed with analytical validation and clinical verification and trials towards a future U.S. FDA submission.
- The Acuitas AMR Gene Panel (isolates) is currently pending final FDA review and a potential clearance decision. The FDA recently notified us that the agency plans to continue prioritizing emergency use authorization requests for diagnostic products intended to address the COVID-19 pandemic for at least the remainder of the year, which will impact the statutory review periods for submissions, including the potential clearance decision on our Acuitas AMR Gene Panel (isolates) submission. Once FDA cleared, we expect to commercialize the Acuitas AMR Gene Panel for isolates more broadly to customers in the United States. The Acuitas AMR Gene Panel (Urine) test has been discontinued as part of the October 13, 2020 portfolio and pipeline strategy update.
- We are also developing novel bioinformatics tools and solutions to accompany or augment our current and potential future IVD products and may seek regulatory clearance for such bioinformatics tools and solutions to the extent they would be required either as part of our portfolio of IVD products or even as a standalone bioinformatics products.

Further, as part of our recent strategy and portfolio update, we determined to discontinue our QuickFISH and PNA FISH product lines. We expect to exit such business by June 30, 2021. Our customers and business partners have been informed of such plans, and we are preparing for an orderly wind-down of such product lines.

Company and Other Information

OpGen, Inc. was incorporated in Delaware in 2001. On July 14, 2015, we acquired AdvanDx, Inc., a Delaware corporation, as a wholly-owned subsidiary in a merger transaction, or the AdvanDx Merger. On September 3, 2019, we formed Crystal GmbH for the sole purpose of completing our business combination with Curetis GmbH, which closed on April 1, 2020. Our principal executive office is located at 708 Quince Orchard Road, Gaithersburg, Maryland, 20878, and our telephone number is (240) 813-1260. We also have operations in Germany and Austria. Our website address is www.opgen.com. We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus.

THE OFFERING

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| Common stock offered by us: | Shares of our common stock having an aggregate offering price of \$22.1 million. To date, we have sold \$16.5 million under the ATM Offering, including \$0.8 million of shares of our common stock since September 4, 2020, the date when we most recently updated this ATM Offering prospectus. |
| Common stock outstanding after this offering: | 22,978,667 shares, assuming a sales price of \$1.99 per share, which was the closing price of our common stock on the NASDAQ Capital Market on November 12, 2020. The actual number of shares issued in this offering will vary depending on the price at which shares may be sold from time to time in this offering. |
| Manner of offering: | The Sales Agents may, according to the terms of the Sales Agreement, sell the shares of our common stock offered under this prospectus in an “at-the-market” offering. |
| Use of Proceeds: | We currently intend to use the net proceeds of this offering for the following purposes: (1) support research and development and regulatory activities in support of our anticipated FDA 510(k) submissions for the Acuitas AMR Gene Panel test; (2) commercialize our products, with a focus on the Unyvero platform and diagnostic tests, and the Acuitas AMR Gene Panel test for isolates; (3) support further development and commercialization of the Ares Genetics database and Acuitas Lighthouse Software; (4) fund directed sales and marketing efforts to the customers and collaborators relating to our products and services; (5) invest in manufacturing and operations infrastructure to support sales of products; and (6) the balance, if any, for general corporate purposes. See “Use of Proceeds” on page S-5 of this prospectus supplement. |
| Risk Factors: | Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page S-5 of this prospectus supplement and under the similar heading in the accompanying prospectus and the other information included or incorporated by reference herein or therein. |
| NASDAQ Capital Market symbol: | Our common stock is listed on the NASDAQ Capital Market under the symbol “OPGN.” |

Except as otherwise indicated, the information in this prospectus supplement assumes the sale of all of the shares offered hereby.

The number of shares of common stock to be outstanding immediately after this offering is based on 17,693,932 shares of our common stock outstanding as of June 30, 2020, and excludes:

- 143,288 shares of common stock issuable upon the exercise of outstanding options granted as of June 30, 2020, under our equity incentive plans at a weighted average exercise price of \$70.97 per share;
- 1,033,386 shares of common stock issuable upon the exercise of outstanding warrants issued as of June 30, 2020, at a weighted average exercise price of \$29.82 per share;

- 8,151 shares of common stock issuable upon vesting of outstanding restricted stock units granted as of June 30, 2020;
- 230,711 shares of common stock available for future issuance under our equity incentive plans as of June 30, 2020;
- 1,879,354 shares of common stock issued in an “at the market” equity offering under the Prospectus Supplements and Base Prospectus since June 30, 2020;
- 270,000 shares of common stock issued upon the exercise of common warrants issued since June 30, 2020;
- 750 shares of common stock issued upon the vesting of restricted stock units since June 30, 2020; and
- 311,003 shares of common stock issued upon the conversion of Convertible Notes since June 30, 2020;

The number of outstanding options, restricted stock units and shares of common stock available for future issuances under our equity incentive plans does not reflect:

- the grant of stock options to purchase an aggregate of 1,300,000 shares of our common stock to our executive officers and non-employee members of our board of directors, which such grant was approved outside of our existing equity incentive plans in September 2020;
- the grant of stock options to purchase an aggregate of 225,000 shares of our common stock under our 2015 Plan in October 2020; and
- the expiration of stock options to purchase 280 shares of our common stock since June 30, 2020.

Unless otherwise indicated, all information contained in this prospectus supplement assumes (i) no exercise of options issued under our equity incentive plans and (ii) no exercise of warrants.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should consider carefully the risks and uncertainties incorporated by reference herein, together with all of the other information in, or incorporated by reference in, this prospectus, including the Original Prospectus, and our financial statements and related notes incorporated by reference herein, before making an investment decision. If any of these risks occur, our business, financial condition, results of operations and prospects could be materially and adversely affected. In that event, the trading price of our common stock could decline and you could lose part or all of your investment.

USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate sales proceeds of up to \$22.1 million from time to time. To date, we have sold \$16.5 million under the ATM Offering, including \$0.8 million of shares of our common stock since September 4, 2020, the date when we most recently updated this ATM Offering prospectus. The amount of proceeds from this offering will depend upon the number of shares of common stock sold and the market price at which they are sold. There can be no assurance that we will be able to sell any shares under or fully utilize the Sales Agreement with the Sales Agents.

The primary programs and activities to which we intend to devote the net proceeds of offerings under this prospectus are:

- support research and development and regulatory activities in support of our anticipated FDA 510(k) submissions for the Acuitas AMR Gene Panel test for isolates;
- commercialize our products, with a focus on the Unyvero platform and diagnostic tests, and the Acuitas AMR Gene Panel test for isolates;
- support further development and commercialization of the Ares Genetics database and Acuitas Lighthouse Software;
- fund directed marketing and sales efforts to the customers and collaborators relating to our products and services;
- invest in manufacturing and operations infrastructure to support sales of products; and
- the balance, if any, for general corporate purposes.

This expected use of net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. Our management will have broad discretion in the application of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of this offering. Our stockholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds. Moreover, our management may use the net proceeds for corporate purposes that may not result in our being profitable or increase our market value.

PLAN OF DISTRIBUTION

With respect to this ATM Offering, we have amended and restated our existing Sales Agreement with Wainwright in order to add BTIG as a sales agent for this ATM Offering. Under the Sales Agreement, the sales agents may continue to offer and sell shares of our common stock, par value \$0.01 per share, in “at-the-market” offerings (as defined in Rule 415 promulgated under the Securities Act of 1933, as amended). In accordance with the terms of the Sales Agreement, we are offering for sale and selling shares of our common stock having an aggregate offering price of up to \$22.1 million from time to time through Wainwright and BTIG acting as our sales agents. Since September 4, 2020, the date when we most recently updated this ATM Offering prospectus, we have sold \$0.8 million of shares of common stock under the Sales Agreement. If we and the Sales Agents agree on any method of distribution other than sales of shares of our common stock into the NASDAQ Capital Market or another existing trading market in the United States at market prices, we will file a further prospectus supplement providing all information about such offering as required by Rule 424(b) under the Securities Act. We will file a copy of the Sales Agreement with the SEC on a Current Report on Form 8-K within the time required by the Exchange Act.

From time to time during the term of the Sales Agreement, we may deliver a sales notice to the Sales Agents specifying the length of the selling period, the number of shares of common stock to be sold and the minimum price below which sales may not be made. Upon our delivery of a sales notice to the applicable Sales Agent, and subject to the terms and conditions of the Sales Agreement, the Sales Agent agrees to use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell such shares of our common stock on such terms. We may only instruct one Sales Agent to issue and sell common stock under the Sales Agreement on any single given day. We or the Sales Agents may suspend the offering of our common stock at any time upon proper notice to the other, at which time the sales notice will immediately terminate. Settlement for sales of our common stock will occur at 10:00 a.m. (New York City time), or at some other time that is agreed upon by us and the applicable Sales Agent in connection with a particular transaction, on the second trading day following the date any sales were made, unless we otherwise agree with the Sales Agent. The obligation of the Sales Agents under the Sales Agreement to sell shares of our common stock pursuant to any sales notice is subject to a number of conditions, which the Sales Agents may waive in their sole discretion. Sales of our common stock as contemplated in this prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and the Sales Agents may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement

We will pay each Sales Agent a placement fee of 3.0% of the gross sales price of the shares of our common stock that such Sales Agent sells pursuant to the Sales Agreement. Because there is no minimum offering amount required as a condition to close this offering, the actual total offering amount, commissions and proceeds to us, if any, are not determinable at this time. We have also agreed to reimburse the Sales Agents for certain specified expenses, including the fees and disbursements of their legal counsel in an amount not to exceed \$30,000. Additionally, pursuant to the terms of the Sales Agreement, we agreed to reimburse the Sales Agents for the documented fees and costs of its legal counsel reasonably incurred in connection with their ongoing diligence, drafting and other filing requirements arising from the transactions contemplated by the Sales Agreement in an amount not to exceed \$10,000 in the aggregate per calendar quarter.

In connection with the sale of the common stock on our behalf, each Sales Agent will be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of each Sales Agent will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to each Sales Agent against certain civil liabilities, including liabilities under the Securities Act.

We will report at least quarterly the number of shares of our common stock sold through the Sales Agents, as our agents, in this offering and, to the extent applicable, the number of shares of our common stock issued upon settlement of any terms agreements, and the net proceeds to us in connection with such sales of our common stock.

The offering of our common stock pursuant to the Sales Agreement will terminate upon the earliest of the sale of all of our common stock under this prospectus supplement or termination of the Sales Agreement by either us or the Sales Agents at any time.

Any portion of the amount included in this prospectus supplement that is not previously sold or included in an active placement notice pursuant to the Sales Agreement is available for sale in other offerings pursuant to the accompanying prospectus, and if no shares are sold under the Sales Agreement, the full amount of common stock may be sold in other offerings pursuant to the accompanying prospectus and a corresponding prospectus supplement.

To the extent required by Regulation M, the Sales Agents will not engage in any market making activities involving our shares of common stock while the offering is ongoing under this prospectus.

Each of Wainwright, BTIG and their respective affiliates may in the future provide various investment banking and other financial services for us and our affiliates, for which services they may in the future receive customary fees.

We estimate that the total expenses for the offering, excluding compensation and reimbursements payable to the Sales Agents under the terms of the Sales Agreement, will be approximately \$85,500.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We filed with the SEC a registration statement on Form S-3 under the Securities Act of 1933 for the shares of common stock in this offering. This prospectus does not contain all of the information in the registration statement and the exhibits and schedule that were filed with the registration statement. For further information with respect to us and our common stock, we refer you to the registration statement and the exhibits and schedule that were filed with the registration statement. Statements contained in this prospectus about the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and we refer you to the full text of the contract or other document filed as an exhibit to the registration statement. The SEC maintains a website that contains reports, proxy and information statements, and other information regarding registrants that file electronically with the SEC. The address of the website is www.sec.gov.

We file periodic reports under the Securities Exchange Act of 1934, including annual, quarterly and special reports, and other information with the Securities and Exchange Commission. These periodic reports and other information are available for inspection and copying at the SEC regional offices, public reference facilities and on the website of the SEC referred to above.

We make available free of charge on or through our internet website our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The information found on our website, www.opgen.com, other than as specifically incorporated by reference in this prospectus, is not part of this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” in this prospectus the information in other documents that we file with it, which means that we can disclose important information to you by referring you to those documents containing such information. This prospectus is a part of a registration statement we filed with the SEC. You should rely on the information incorporated by reference in this prospectus and the registration statement. The information incorporated by reference is considered to be part of this prospectus and information we file later with the SEC will automatically update and supersede this information and information contained in documents filed earlier with the SEC. We incorporate by reference the documents listed below and any future filings made with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of the offering; provided, that we are not incorporating by reference any documents or information deemed to have been furnished and not filed in accordance with SEC rules. The documents we are incorporating by reference are:

- our [Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 24, 2020](#);
- our Quarterly Reports on Form 10-Q for the quarters ended [March 31, 2020](#) and [June 30, 2020](#), filed with the SEC on May 8, 2020 and August 14, 2020, respectively;

our Current Reports on Form 8-K filed with the SEC on [January 23, 2020 \(Item 8.01\)](#); [January 30, 2020 \(Item 8.01 and 9.01\)](#); [February 12, 2020 \(Items 1.01 and 9.01\)](#); [February 12, 2020 \(Items 8.01 and 9.01\)](#); [February 20, 2020 \(Items 8.01 and 9.01\)](#); [February 28, 2020 \(Items 1.01 and 9.01\)](#); [March 10, 2020 \(Items 8.01 and 9.01\)](#); [March 16, 2020 \(Items 8.01 and 9.01\)](#); [March 19, 2020 \(Items 8.01 and 9.01\)](#); [March 24, 2020 \(Items 8.01 and 9.01, but only exhibit 99.2 thereof\)](#); [March 30, 2020 \(Items 5.07, 8.01 and 9.01\)](#); [April 2, 2020 \(Items 2.01, 5.02, 8.01 and 9.01\)](#), as amended on [June 15, 2020](#); [April 16, 2020 \(Item 8.01\)](#); [April 28, 2020 \(Items 1.01, 2.03 and 9.01\)](#); [May 7, 2020 \(Item 5.02\)](#); [May 11, 2020 \(Items 8.01 and 9.01\)](#); [June 3, 2020 \(Items 8.01 and 9.01\)](#); [July 13, 2020 \(Items 1.01, 2.03, 8.01 and 9.01\)](#); [July 14, 2020 \(Items 8.01 and 9.01\)](#); [July 15, 2020 \(Items 8.01 and 9.01\)](#); [August 10, 2020 \(Items 8.01 and 9.01\)](#), as amended on [August 12, 2020](#); [August 11, 2020 \(Items 5.02, 5.03, 5.08 and 9.01\)](#); and [August 20, 2020 \(Items 8.01 and 9.01, but only exhibit 99.2 thereof\)](#); [October 2, 2020 \(Items 5.02 and 5.07\)](#); [October 15, 2020 \(Items 2.02 and 9.01\)](#); [November 2, 2020 \(Items 5.02 and 9.01\)](#); and [November 13, 2020 \(Items 1.01, 8.01 and 9.01\)](#);

our [proxy statement for the Annual Meeting of Stockholders to be held on September 30, 2020, filed with the SEC on August 20, 2020](#); and

the description of our common stock contained in the Registration Statement on [Form 8-A filed on April 30, 2015](#) and any amendments to such Registration Statement filed subsequently thereto, including all amendments or reports filed for the purpose of updating such description.

We will furnish to you, on written or oral request, a copy of any or all of the documents that have been incorporated by reference, including exhibits to these documents. You may request a copy of these filings at no cost by writing or telephoning our Secretary at the following address and telephone number:

OpGen, Inc.
Attention: Timothy C. Dec, Corporate Secretary
708 Quince Orchard Road, Suite 205
Gaithersburg, MD 20878
Telephone No.: (240) 813-1260

