
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

Post-Effective Amendment No. 1

to

FORM S-1

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

INTERPACE BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

3841
(Primary Standard Industrial
Classification Code Number)

22-2919486
(IRS Employer
Identification No.)

**Morris Corporate Center 1, Building C
300 Interpace Parkway
Parsippany, New Jersey 07054
(855) 776-6419**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Thomas W. Burnell
President, Chief Executive Officer and Director
Morris Corporate Center 1, Building C
300 Interpace Parkway
Parsippany, New Jersey 07054
(855) 776-6419**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

**Merrill M. Kraines, Esq.
Troutman Pepper Hamilton Sanders LLP
875 Third Avenue
New York, NY 10022
Tel: (212) 808-2711**

Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.

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, 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, 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(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. **333-261504**

This Registration Statement shall become effective upon filing in accordance with Rule 462(d) under the Securities Act of 1933.

EXPLANATORY NOTE

This Post-Effective Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-261504) is filed pursuant to Rule 462(d) solely to add an updated Exhibit 5.1 with respect to such Registration Statement.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 16. Exhibits and Financial Statement Schedules

Exhibit No.	Description
3.1	<u>Conformed version of Certificate of Incorporation of Interpace Biosciences, Inc., as amended by the Certificate of Amendment, effective January 15, 2020, and the Certificate of Designation of Preferences, Rights and Limitations of Series B Convertible Preferred Stock, filed January 17, 2020, incorporated by reference to Exhibit 3.1 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.</u>
3.2	<u>Amended and Restated Bylaws of Interpace Biosciences, Inc., incorporated by reference to Exhibit 3.2 of the Company's Current Report on Form 8-K, filed with the SEC on November 14, 2019.</u>
4.1	<u>Description of Securities, incorporated by reference to Exhibit 4.1 of the Company's Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on April 1, 2021.</u>
4.2	<u>Specimen Certificate Representing the Common stock, incorporated by reference to Exhibit 4.1 of the Company's Registration Statement on Form S-3 (File No. 333-227728), filed with the SEC on October 5, 2018.</u>
4.3	<u>Form of Common stock Purchase Warrant, incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K, filed with the SEC on January 20, 2017.</u>
4.4	<u>Form of Common stock Purchase Warrant, incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K, as amended, filed with the SEC on March 24, 2017.</u>
4.5	<u>Form of Underwriters' Warrants, incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K, filed with the SEC on June 21, 2017.</u>
4.6	<u>Form of Common stock Purchase Warrant, incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K, filed with the SEC on June 21, 2017.</u>
4.7	<u>Form of Common stock Purchase Warrant, incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K, filed with the SEC on October 12, 2017.</u>
4.8	<u>Form of Underwriter Common stock Purchase Warrant, incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K, filed with the SEC on January 29, 2019.</u>
4.9 [^]	<u>Form of Subscription Rights Certificate.</u>
5.1*	<u>Opinion of Troutman Pepper Hamilton Sanders, LLP.</u>
10.1#	<u>Amended and Restated 2004 Stock Award and Incentive Plan, incorporated by reference to Annex A of the Company's definitive proxy statement, filed with the SEC on August 14, 2017.</u>
10.2#	<u>Form of Restricted Stock Unit Agreement for Employees, incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, filed with the SEC on May 15, 2018.</u>
10.3#	<u>Form of Restricted Stock Unit Agreement for Directors, incorporated by reference to Exhibit 10.2 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, filed with the SEC on May 15, 2018.</u>
10.4#	<u>Form of Non-Qualified Stock Option Agreement, incorporated by reference to Exhibit 10.3 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, filed with the SEC on May 15, 2018.</u>
10.5#	<u>Form of Incentive Stock Option Agreement, incorporated by reference to Exhibit 10.4 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, filed with the SEC on May 15, 2018.</u>
10.6#	<u>Interpace Diagnostics Group, Inc. 2019 Equity Incentive Plan, incorporated by reference to Exhibit 4.1 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, filed with the SEC on November 14, 2019.</u>
10.7#	<u>Amendment to the Interpace Biosciences, Inc. 2019 Equity Incentive Plan, incorporated by reference to Exhibit 10.8 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, filed with the SEC on June 26, 2020.</u>
10.8#	<u>Form of Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under the 2019 Equity Incentive Plan, incorporated by reference to Exhibit 4.3 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, filed with the SEC on November 14, 2019.</u>
10.9#	<u>Form of Interpace Biosciences, Inc. 2019 Equity Incentive Plan Restricted Stock Unit And Restricted Stock Unit Agreement, incorporated by reference to Exhibit 10.9 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, filed with the SEC on June 26, 2020.</u>
10.10#	<u>Form of Stock Option Grant Notice and Stock Option Agreement under the 2019 Equity Incentive Plan, incorporated by reference to Exhibit 4.4 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, filed with the SEC on November 14, 2019.</u>
10.11#	<u>Interpace Diagnostics Group, Inc. Employee Stock Purchase Plan, incorporated by reference to Exhibit 4.2 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, filed with the SEC on November 14, 2019.</u>
10.12#	<u>Incentive Stock Option Agreement between Interpace Diagnostics Group, Inc. and James Early, incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K, filed with the SEC on October 20, 2016.</u>
10.13#	<u>Incentive Stock Option Agreement between Interpace Diagnostics Group, Inc. and Jack E. Stover, incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the SEC on October 20, 2016.</u>
10.14#	<u>Employment Agreement, dated November 23, 2020, between Thomas W. Burnell and Interpace Biosciences, Inc., incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the SEC on November 25, 2020.</u>
10.15#	<u>Separation and Consulting Agreement and General Release, dated November 23, 2020, between Jack E. Stover and Interpace Biosciences, Inc., incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K, filed with the SEC on November 25, 2020.</u>
10.16#	<u>Form of Indemnification Agreement by and between Interpace Diagnostics Group, Inc. and its directors and executive officers, incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the SEC on August 8, 2016.</u>
10.17#	<u>Form of Indemnification Agreement by and between Interpace Biosciences, Inc. and Indemnitee, incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K, filed with the SEC on January 17, 2020.</u>
10.18	<u>License Agreement, dated August 13, 2014, by and between Interpace Diagnostics, LLC and Asuragen, Inc., incorporated by reference to Exhibit 10.31 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, filed with the SEC on November 5, 2014.</u>
10.19	<u>CPRIT License Agreement, dated August 13, 2014, by and between Interpace Diagnostics, LLC and Asuragen, Inc., incorporated by reference to Exhibit 10.32 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, filed with the SEC on November 5, 2014.</u>
10.20	<u>Supply Agreement, dated August 13, 2014, by and between Interpace Diagnostics, LLC and Asuragen, Inc., incorporated by reference to Exhibit 10.33 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, filed with the SEC on November 5, 2014.</u>
10.21	<u>Guaranty, dated August 13, 2014 by the Company in favor of Asuragen, Inc., incorporated by reference to Exhibit 10.34 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, filed with the SEC on November 5, 2014.</u>
10.22	<u>Morris Corporate Center Lease, incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2009, filed with the SEC on November 5, 2009.</u>
10.23	<u>First Amendment to Lease, dated May 24, 2017, by and between Brookwood MC Investors, LLC, Brookwood MC II, LLC, and the Company, incorporated by reference to Exhibit 10.52 of the Company's Registration Statement on Form S-1 (333-218140), as amended, filed with the SEC on June 13, 2017.</u>
10.24	<u>Lease, dated June 28, 2015, by and between WE 2 Church Street South LLC and JS Genetics, LLC, incorporated by reference to Exhibit 10.42 of the Company's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 5, 2015.</u>

- 10.25 [Amendment No. 1 to Lease, dated September 18, 2007, by and between WE 2 Church Street South LLC and JS Genetics, LLC, incorporated by reference to Exhibit 10.43 of the Company's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 5, 2015.](#)
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- 10.26 [Amendment No. 2 to Lease, dated August 29, 2008, by and between WE 2 Church Street South LLC and JS Genetics, LLC, incorporated by reference to Exhibit 10.44 of the Company's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 5, 2015.](#)
- 10.27 [Amendment No. 3 to Lease, dated April 8, 2009, by and between WE 2 Church Street South LLC and JS Genetics, LLC, incorporated by reference to Exhibit 10.45 of the Company's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 5, 2015.](#)
- 10.28 [Amendment No. 4 to Lease, dated September 16, 2010, by and between WE 2 Church Street South LLC and JS Genetics, LLC, incorporated by reference to Exhibit 10.46 of the Company's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 5, 2015.](#)
- 10.29 [Amendment No. 5 to Lease, dated September 15, 2011, by and between WE 2 Church Street South LLC and JS Genetics, LLC, incorporated by reference to Exhibit 10.47 of the Company's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 5, 2015.](#)
- 10.30 [Amendment No. 6 to Lease, dated March 5, 2014, by and between WE 2 Church Street South LLC and JS Genetics, LLC, incorporated by reference to Exhibit 10.48 of the Company's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 5, 2015.](#)
- 10.31 [Amendment No. 7 to Lease, dated August 29, 2014, by and between WE 2 Church Street South LLC and JS Genetics, LLC, incorporated by reference to Exhibit 10.49 of the Company's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 5, 2015.](#)
- 10.32 [Amendment No. 8 to Lease, dated December 31, 2019, by and between WE 2 Church Street South LLC and Interpace Diagnostics Lab Inc., incorporated by reference to Exhibit 10.34 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.33 [Lease Agreement, dated March 31, 2017, by and between Saddle Lane Realty, LLC and the Company, incorporated by reference to Exhibit 10.53 of the Company's Registration Statement on Form S-1 \(333-218140\), as amended on June 13, 2017.](#)
- 10.34 [First Amendment, dated September 26, 2017, by and between Saddle Lane Realty, LLC and Interpace Diagnostics Corporation, incorporated by reference to Exhibit 10.36 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.35 [Amendment No. 2 to Lease, dated March 15, 2018, between Saddle Lane Realty, LLC and Interpace Diagnostics Corporation, incorporated by reference to Exhibit 10.45 of the Company's Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on March 23, 2018.](#)
- 10.36 [Warrant Agency Agreement, dated June 21, 2017, by and between Interpace Diagnostics Group, Inc. and American Stock Transfer & Trust Company, LLC, incorporated by reference to Exhibit 1.2 of the Company's Current Report on Form 8-K, filed with the SEC on June 21, 2017.](#)
- 10.37 [Office Lease Agreement, dated October 9, 2007, by and between Meadows Office, L.L.C. and Cancer Genetics, Inc., incorporated by reference to Exhibit 10.44 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.38 [First Amendment to Lease, dated October 30, 2017, by and between Meadows Landmark LLC and Cancer Genetics, Inc., incorporated by reference to Exhibit 10.45 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.39 [Consent to Assignment, dated July 19, 2019, by and among Meadows Landmark LLC, Cancer Genetics, Inc., and Interpace BioPharma, Inc. incorporated by reference to Exhibit 10.46 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.40 [Lease Agreement, dated June 12, 2004, by and between Southport Business Park Limited Partnership and Gentriss Corporation, incorporated by reference to Exhibit 10.47 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
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- 10.41 [Letter Amendment, dated October 21, 2004, by and between Southport Business Park Limited Partnership and Gentriss Corporation, incorporated by reference to Exhibit 10.48 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.42 [Second Amendment to Lease, dated June 17, 2005, by and between Southport Business Park Limited Partnership and Gentriss Corporation, incorporated by reference to Exhibit 10.49 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.43 [Third Amendment to Lease, dated May 25, 2006, by and between Southport Business Park Limited Partnership and Gentriss Corporation, incorporated by reference to Exhibit 10.50 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.44 [Fourth Amendment to Lease, dated December 20, 2007, by and between Southport Business Park Limited Partnership and Gentriss Corporation, incorporated by reference to Exhibit 10.51 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.45 [Fifth Amendment to Lease, dated June 15, 2009, by and between Southport Business Park Limited Partnership and Gentriss Corporation, incorporated by reference to Exhibit 10.52 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.46 [Sixth Amendment to Lease, dated June 3, 2010, by and between Southport Business Park Limited Partnership and Gentriss Corporation, incorporated by reference to Exhibit 10.53 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.47 [Seventh Amendment to Lease, dated October 26, 2010, by and between Southport Business Park Limited Partnership and Gentriss Corporation, incorporated by reference to Exhibit 10.54 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.48 [Eighth Amendment to Lease, dated July 27, 2011, by and between Southport Business Park Limited Partnership and Gentriss Corporation, incorporated by reference to Exhibit 10.55 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.49 [Ninth Amendment to Lease, dated November 7, 2012, by and between Southport Business Park Limited Partnership and Gentriss Corporation, incorporated by reference to Exhibit 10.56 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.50 [Tenth Amendment to Lease, dated July 15, 2014, by and among Southport Business Park Limited Partnership, Gentriss Corporation, and Gentriss, LLC, incorporated by reference to Exhibit 10.57 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.51 [Eleventh Amendment to Lease, effective as of June 1, 2020, by and between Southport Business Park Limited Partnership and Interpace Pharma Solutions, Inc., incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the SEC on June 9, 2020.](#)
- 10.52 [Assignment of Lease, dated July 15, 2019, by and between Cancer Genetics, Inc. and Interpace BioPharma, Inc., incorporated by reference to Exhibit 10.58 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)
- 10.53 [Guaranty of Lease, dated July 15, 2019, by and between Interpace Diagnostics Group, Inc. and Southport Business Park Limited Partnership, incorporated by reference to Exhibit 10.59 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on April 22, 2020, as amended from time to time.](#)

- 10.54 [Securities Purchase and Exchange Agreement, dated January 10, 2020, by and among Interpace Biosciences, Inc., 1315 Capital II, L.P. and Ampersand 2018 Limited Partnership, incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the SEC on January 14, 2020.](#)
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- 10.55 [Amended and Restated Investor Rights Agreement, dated as of January 15, 2020, by and among Interpace Biosciences, Inc., 1315 Capital II, L.P. and Ampersand 2018 Limited Partnership, incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the SEC on January 17, 2020.](#)
- 10.56 [Support Agreement, dated April 2, 2020, by and between 1315 Capital II, L.P. and Interpace Biosciences, Inc., incorporated by reference to Exhibit 10.2 of the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020, filed with the SEC on October 19, 2020.](#)
- 10.57 [Lease Termination Notice to Meadows Landmark, LLC for the Company's laboratory facility at Meadows Office Complex, 201 Route 17 North, Rutherford, New Jersey, effective March 31, 2021, incorporated by reference to Exhibit 10.73 of the Company's Annual Report on Form 10-k for the year ended December 31, 2021, filed with the SEC on October April 1, 2021.](#)
- 10.58 [Severance agreement and General Release, dated January 31, 2021, by and between the Company and Fred Knechtel, incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2021, filed with the SEC on October May 11, 2021.](#)
- 10.59 [Employment agreement entered into May 10, 2021, effective February 1, 2021, between Thomas Freeburg and the Company, incorporated by reference to Exhibit 10.2 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2021, filed with the SEC on May 11, 2021.](#)
- 10.60 [Asset Purchase Agreement by and among the Company and Diamir Biosciences Corp. dated March 16, 2021, incorporated by reference to Exhibit 2.1 of the Company's Form 10-Q for the quarter ended March 31, 2021, filed with the SEC on May 11, 2021.](#)
- 10.61 [Loan and Security Agreement by and between Comerica Bank, Interpace Biosciences, Inc., Interpace Diagnostics Corporation, Interpace Diagnostics, LLC and Interpace Pharma Solutions, Inc., dated October 13, 2021, incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the SEC on October 19, 2021.](#)
- 10.62 [Subordination Agreement by and between Ampersand 2018 Limited Partnership, 1315 Capital II, L.P., Comerica Bank Interpace Biosciences, Inc., Interpace Diagnostics Corporation, Interpace Diagnostics, LLC and Interpace Pharma Solutions, Inc., dated October 13, 2021, incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K, filed with the SEC on October 19, 2021.](#)
- 10.63 [Loan and Security Agreement by and between BroadOak Fund V, L.P., Interpace Biosciences, Inc., Interpace Diagnostics Corporation, Interpace Diagnostics, LLC and Interpace Pharma Solutions, Inc., dated October 29, 2021, incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the SEC on November 3, 2021.](#)
- 10.64 [First Amendment to Loan and Security Agreement by and between Comerica Bank, Interpace Biosciences, Inc., Interpace Diagnostics Corporation, Interpace Diagnostics, LLC and Interpace Pharma Solutions, Inc., dated November 1, 2021, incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K, filed with the SEC on November 3, 2021.](#)
- 10.65 [Subordination and Intercreditor Agreement by and between Comerica Bank, BroadOak Fund V, L.P., Interpace Biosciences, Inc., Interpace Diagnostics Corporation, Interpace Diagnostics, LLC and Interpace Pharma Solutions, Inc., dated as of November 1, 2021, incorporated by reference to Exhibit 10.3 of the Company's Current Report on Form 8-K, filed with the SEC on November 3, 2021.](#)
- 10.66[^] [Form of Standby Purchase Agreement by and among Interpace Biosciences, Inc., 3K Limited Partnership, Peter H. Kamin, Peter H. Kamin Revocable Trust dated February 2003, Peter H. Kamin Childrens Trust dated March 1997 and Peter H. Kamin Family Foundation, to be entered into upon the effectiveness of this registration statement.](#)
- 10.67[^] [Form of Registration Rights Agreement by and between Interpace Biosciences, Inc. and 3K Limited Partnership, to be entered into at the closing of the Standby Purchase Commitment.](#)
- 10.68[^] [Form of Investor Rights Agreement by and between Interpace Biosciences, Inc. and 3K Limited Partnership, to be entered into at the closing of the Standby Purchase Commitment.](#)
- 99.1[^] [Form of Instructions.](#)
- 99.2[^] [Form of Letter to Record Holders.](#)
- 99.3[^] [Form of Letter to Brokers and Nominees.](#)
- 99.4[^] [Form of Letter to Clients of Brokers and Nominees.](#)
- 99.5[^] [Form of Nominee Holder Certification.](#)
- 99.6[^] [Form of Beneficial Owner Election Form.](#)
- 99.7[^] [Form of Notice of Guaranteed Delivery.](#)
- 21.1[^] [Subsidiaries of the Registrant, incorporated by reference to Exhibit 21.1 of the Company's Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on October April 1, 2021, as amended from time to time.](#)
- 23.1[^] [Consent of BDO USA, LLP, filed herewith.](#)
- 23.2* [Consent of Troutman Pepper Hamilton Sanders, LLP \(included in Exhibit 5.1\)](#)

- [^] Previously filed.
- * Filed herewith.
- # Denotes compensatory plan, compensation arrangement or management contract.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Post-Effective No. 1 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parsippany, State of New Jersey, on January 12, 2022.

INTERPACE BIOSCIENCES, INC.

By: /s/ Thomas W. Burnell
 Thomas W. Burnell
 President, Chief Executive Officer and Director
 (Principal Executive Officer)

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

<u>/s/ Thomas W. Burnell</u> Thomas W. Burnell	President, Chief Executive Officer and Director (Principal Executive Officer)	January 12, 2022
<u>/s/ Thomas Freeburg</u> Thomas Freeburg	Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	January 12, 2022
*	Director	January 12, 2022

Stephen J. Sullivan

*

Joseph Keegan

Director

January 12, 2022

*

Eric Lev

Director

January 12, 2022

*

Robert Gorman

Chairman of the Board of Directors

January 12, 2022

*

Edward Chan

Director

January 12, 2022

*

Fortunato Ron Rocca

Director

January 12, 2022

*By: /s/ Thomas W. Burnell
Thomas W. Burnell
Attorney-in-Fact

Troutman Pepper Hamilton Sanders LLP
875 Third Avenue
New York, New York 10022



troutman.com

January 12, 2022

Interpace Biosciences, Inc.
Morris Corporate Center 1, Building C
300 Interpace Parkway
Parsippany, New Jersey 07054

Re: Registration Statement on Form S-1 (File No. 333-261504) of Subscription Rights to Purchase Shares of Common Stock

Ladies and Gentlemen:

We have acted as counsel to Interpace Biosciences, Inc., a Delaware corporation (the “*Company*”), in connection with the preparation of the Registration Statement on Form S-1 (File No. 333-261504), initially filed by the Company with the Securities and Exchange Commission (the “*Commission*”) on December 3, 2021, as amended on January 3, 2022 and again on January 7, 2022 and declared effective on January 12, 2022 (the “*Registration Statement*”) pursuant to the requirements of the Securities Act of 1933, as amended (the “*Securities Act*”). The Registration Statement relates to the registration under the Act of (i) 5,600,060 non-transferable subscription rights (the “*Subscription Rights*”) to be distributed by the Company without consideration in connection with a rights offering (the “*Rights Offering*”) to holders of record of the Company’s common stock, par value \$0.01 per share (the “*Common Stock*”), and holders of record of outstanding warrants issued by the Company on February 13, 2015, May 4, 2016, October 19, 2016, March 31, 2017, August 9, 2017 and January 30, 2018, and (ii) the 4,200,045 shares of Common Stock issuable upon the exercise of the Subscription Rights (the “*Subscription Shares*”).

In our capacity as counsel, you have requested that we render the opinions set forth in this letter and we are furnishing this opinion letter to you pursuant to the requirements of Item 601(b)(5) of Regulation S-K under the Act.

In connection herewith, we have examined originals or copies, certified or otherwise identified to our satisfaction, of (i) the Registration Statement as filed with the Commission; (ii) the Company’s certificate of incorporation, as amended to date; (v) the Company’s bylaws, as amended to date; (vi) resolutions of the board of directors of the Company (the “*Board*”) relating to the Rights Offering and; (vii) such other documents as we have deemed necessary or appropriate for purposes of rendering the opinion set forth herein.

In rendering the opinions set forth below, we have assumed that (i) all information contained in all documents reviewed by us is true and correct; (ii) all signatures on all documents examined by us are genuine; (iii) all documents submitted to us as originals are authentic and all documents submitted to us as copies conform to the originals of those documents; and (iv) any certificates representing securities to be issued pursuant to the Rights Offering, as applicable, will be duly executed and delivered. As to any facts material to the opinions expressed herein, which were not independently established or verified, we have relied upon statements and representations of officers and other representatives of the Company and others.

Interpace Biosciences, Inc.

January 12, 2022

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Based upon the foregoing, and having due regard for such legal considerations as we deem relevant, we are of the opinion that:

1. The Subscription Rights have been duly authorized and, when duly executed and delivered by the Company in the manner described in the Registration Statement and in accordance with the resolutions adopted by the Board, will constitute valid and legally binding obligations of the Company, enforceable against the Company in accordance with their terms, except to the extent that enforcement thereof may be limited by: (a) bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium, or other similar laws now or hereafter in effect relating to creditors’ rights generally; (b) general principles of equity (regardless of whether enforceability is considered in a proceeding at law or in equity), and by requirements of materiality, reasonableness, good faith and fair dealing; or (c) the laws in any jurisdictions where the Rights Offering is not qualified or such actions are prohibited; and

2. The Subscription Shares have been duly authorized and, when issued and delivered by the Company in accordance with and in the manner described in the Registration Statement and upon receipt by the Company of the consideration therefor upon due exercise of Subscription Rights as provided therein, will be validly issued, fully paid and non-assessable.

The foregoing opinions are limited to the substantive laws of the State of Delaware and we do not express any opinion herein concerning any other law. We express no opinion as to compliance with any federal or state securities laws, including the securities laws of the State of Delaware or as to federal or state laws regarding fraudulent transfers. We assume no obligation to supplement this opinion if any applicable law changes after the date hereof or if we become aware of any fact that might change the opinion expressed herein after the date hereof.

We hereby consent to the filing of this opinion as a part of the Registration Statement and to the reference of our firm under the caption “Legal Matters.” In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

/s/ Troutman Pepper Hamilton Sanders LLP

Troutman Pepper Hamilton Sanders LLP