Exhibit 5.1

Snell & Wilmer
LL.P. _____

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June 13, 2024

NeoGenomics, Inc. 9490 NeoGenomics Way Fort Myers, Florida 33912

Re: Form S-8

Ladies and Gentlemen:

We have acted as your special counsel in connection with the registration statement filed on Form S-8 (the "Registration Statement") by NeoGenomics, Inc., a Nevada corporation (the "Company"), with the Securities and Exchange Commission pursuant to the Securities Act of 1933, as amended (the "Securities Act"), for the registration of 1,000,000 shares of the Company's common stock, par value \$0.001 per share, which are issuable or may be issued pursuant to the Company's Employee Stock Purchase Plan, as amended (the "Plan"). The shares of common stock registered under the Registration Statement are collectively referred to in this letter as the "Shares".

You have requested our opinion as to the matters set forth below in connection with the Registration Statement. For purposes of rendering this opinion, we have examined the Registration Statement, the Plan, the Company's articles of incorporation, as amended, and bylaws, as amended, and the resolutions approved at the special meeting of the Company's board of directors on February 14, 2024, and the unanimous board consent dated June 12, 2024, and we have made such other investigation as we have deemed appropriate. We have examined and relied upon certificates of public officials and, as to certain matters of fact that are material to our opinion, we have also relied upon certificates made by officers of the Company. In rendering our opinion, in addition to the assumptions that are customary in opinion letters of this kind, we have assumed the genuineness of signatures on the documents we have examined, the legal capacity and authority of the persons signing the documents we have examined, the conformity to authentic documents of all documents submitted to us as copies, and that the Company will have sufficient authorized and unissued shares of common stock available with respect to any of the Shares issued after the date of this letter. We have not verified any of these assumptions.

This opinion is rendered as of the date of this letter and is limited to matters of Nevada corporate law, including applicable provisions of the Nevada Constitution and reported judicial decisions interpreting those laws. We express no opinion as to the laws of any other state, the federal law of the United States, or the effect of any federal or state securities laws.



NeoGenomics, Inc. June 13, 2024 Page 2

Based upon and subject to the foregoing, it is our opinion that the Shares were duly authorized for issuance by the Company and, when awarded and issued pursuant to the terms of the Plan, will be validly issued, fully paid, and nonassessable.

We consent to the filing of this opinion as an exhibit to the Registration Statement. In giving our consent, we do not 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 under such act.

Very truly yours,

18 Snell & Wilmer L.P.

Snell & Wilmer L.L.P.