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March 24, 2023

Impel Pharmaceuticals Inc. 201 Elliot Ave. W, Suite 260 Seattle, WA 98119

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

As counsel to Impel Pharmaceuticals Inc., a Delaware corporation (the "Company"), we have examined the Registration Statement on Form S-8 (the "Registration Statement") to be filed by the Company with the Securities and Exchange Commission (the "Commission") on or about March 24, 2023 in connection with the registration under the Securities Act of 1933, as amended (the "Securities Act"), of an aggregate of 1,424,358 shares (the "Shares") of the Company's Common Stock, \$0.001 par value per share (the "Common Stock"), consisting of (a) 1,186,965 additional Shares that are subject to issuance by the Company upon the exercise or settlement of awards granted or to be granted under the Company's 2021 Equity Incentive Plan (the "2021 Plan") pursuant to the provision of the 2021 Plan providing for an annual 5% automatic increase in the number of shares reserved for issuance under the 2021 Plan and (b) 237,393 additional Shares pursuant to purchase rights to acquire shares of Common Stock granted or to be granted under the Company's 2021 Employee Stock Purchase Plan (the "2021 ESPP") pursuant to the provision of the 2021 ESPP providing for an annual 1% automatic increase in the number of shares reserved for issuance under the 2021 ESPP. The plans referred to in clauses (a) through (b) above are collectively referred to in this letter as the ("Plans").

As to matters of fact relevant to the opinions rendered herein, we have examined such documents, certificates and other instruments which we have deemed necessary or advisable, including a certificate addressed to us and dated the date hereof executed by the Company. We have not undertaken any independent investigation to verify the accuracy of any such information, representations or warranties or to determine the existence or absence of any fact, and no inference as to our knowledge of the existence or absence of any fact should be drawn from our representation of the Company or the rendering of the opinion set forth below. We have not considered parol evidence in connection with any of the agreements or instruments reviewed by us in connection with this letter.

In our examination of documents for purposes of this letter, we have assumed, and express no opinion as to, the genuineness and authenticity of all signatures on original documents, the authenticity and completeness of all documents submitted to us as originals, that each document is what it purports to be, the conformity to originals of all documents submitted to us as copies or facsimile copies, the absence of any termination, modification or

waiver of or amendment to any document reviewed by us (other than as has been disclosed to us), the legal competence or capacity of all persons or entities (other than the Company) executing the same and (other than the Company) the due authorization, execution and delivery of all documents by each party thereto. We have also assumed the conformity of the documents filed with the Commission via the Electronic Data Gathering, Analysis and Retrieval System ("EDGAR"), except for required EDGAR formatting changes, to physical copies submitted for our examination.

The opinions in this letter are limited to the existing General Corporation Law of the State of Delaware now in effect. We express no opinion with respect to any other laws.

Based upon, and subject to, the foregoing, it is our opinion that the Shares, when issued and sold by the Company in accordance with the terms (including, without limitation, payment and authorization provisions) of the applicable Plan and the applicable form of award agreement thereunder, against the Company's receipt of payment therefor (in an amount and type of consideration not less than the par value per Share), and duly registered on the books of the transfer agent and registrar for the Shares in the name or on behalf of the holders thereof, will be validly issued, fully paid and non-assessable.

We consent to the use of this opinion as an exhibit to the Registration Statement and further consent to all references to us, if any, in the Registration Statement, the prospectuses constituting a part thereof and any amendments thereto. We do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

This opinion is intended solely for your use in connection with the issuance and sale of the Shares subject to the Registration Statement and is not to be relied upon for any other purpose. In providing this letter, we are opining only as to the specific legal issues expressly set forth above, and no opinion shall be inferred as to any other matter or matters. This opinion is rendered on, and speaks only as of, the date of this letter first written above, and does not address any potential change in facts or law that may occur after the date of this opinion letter. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention, whether or not such occurrence would affect or modify any of the opinions expressed herein.

Very truly yours,

/s/ Fenwick & West LLP

FENWICK & WEST LLP