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Paper 22
Date: January 11, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MYLAN PHARMACEUTICALS INC.,

Petitioner,

v.

REGENERON PHARMACEUTICALS, INC.,

Patent Owner.

IPR2022-01226
Patent 10,888,601 B2

Before JOHN G. NEW, SUSAN L. C. MITCHELL, and ROBERT A. POLLOCK, *Administrative Patent Judges*.

NEW, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Petitioner Mylan Pharmaceuticals Inc. ("Petitioner") has filed a Petition (Paper 2, "Pet.") seeking *inter partes* review of claims 1–9, 34–39, 41–43, and 45 of US Patent 10,888,601 B2 (Ex. 1001, the "'601 patent"). Patent Owner Regeneron Pharmaceuticals, Inc. ("Patent Owner") timely filed a Preliminary Response. Paper 13 ("Prelim. Resp."). With our authorization (*see* Paper 16 at 1), Petitioner filed a Reply to the Preliminary Response (Paper 17 ("Reply")), and Patent Owner filed a Sur-Reply. Paper 19 ("Sur-Reply").

Under 35 U.S.C. § 314, the Board "may not authorize an *inter partes* review to be instituted unless … the information presented in the petition … and any response … shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." Upon consideration of the Petition, Preliminary Response, Reply, Sur-Reply, and the evidence of record, we determine that the evidence presented demonstrates a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of at least one challenged claim of the '601 patent.

II. BACKGROUND

A. Real Parties-in-Interest

Petitioner identifies Viatris Inc., Mylan Inc., Mylan Pharmaceuticals Inc., Momenta Pharmaceuticals, Inc., Janssen Research & Development LLC, and Johnson & Johnson as the real parties-in-interest. Paper 11 at 1. Patent Owner identifies Regeneron Pharmaceuticals, Inc. as the real party-in-interest. Paper 5 at 1.

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B. Related Matters

Petitioner and Patent Owner identify *Mylan Pharms. Inc. v. Regeneron Pharms., Inc.*, IPR2021-00880, IPR2021-00881, IPR2022-01225 (PTAB), and *Regeneron Pharms., Inc. v. Mylan Pharms. Inc.*, 1:22-cv-00061-TSK (N.D.W. Va.) as related matters. Paper 5 at 1; Paper 11 at 1. Patent Owner also identifies *Chengdu Kanghong Biotechnology Co. v. Regeneron Pharms., Inc.*, PGR2021-00035 (PTAB) (proceeding terminated). Paper 5 at 2–3. Petitioner further identifies the following as judicial or administrative matters that could affect, or be affected by, a decision in this *inter partes* review: *Apotex Inc. v. Regeneron Pharmaceuticals, Inc.*, No. IPR2022-01524 (PTAB), *United States v. Regeneron Pharms., Inc.*, No. 1:20-cv-11217-FDS (D. Mass.), and *Horizon Healthcare Servs., Inc. v. Regeneron Pharms., Inc.*, No. 1:22-cv-10493-FDS (D. Mass.). Paper 11 at 1–2.

Petitioner also identifies additional patents and patent applications that claim priority to the ’601 patent, namely: US 9,254,338 B2; US 9,669,069 B2; US 10,857,205 B2; US 10,828,345 B2; US 10,888,601 B2; and US 11,253,572 B2; and US Appl. Ser. Nos. 17/072,417; 17/112,063; 17/112,404; 17/350,958; and 17/740,744. Paper 11 at 2.

Of particular relevance to our decision in this proceeding is the Final Written Decision entered in IPR2021-00881 on November 9, 2022. *See* IPR 2021-00881, Paper 94 (the “-00881 Decision” Ex. 3001). In the -00881 Decision, the panel found that the challenged claims were unpatentable on at

least one of the same grounds asserted against the challenged claims in the present Petition. *See generally* Ex. 3001.

C. The Asserted Grounds of Unpatentability

Petitioner contends that claims 1–9, 34–39, 41–43, and 45 of the '601 patent are unpatentable, based upon the following grounds:

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1	1–9, 34–39, 41–43, 45	102[1]	Dixon[2]
1	1–9, 34–39, 41–43, 45	102	Adis[3]
3	1–9, 34–39, 41–43, 45	102	Regeneron 2008[4]

[1] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29, 125 Stat. 284 (2011), amended 35 U.S.C. §§ 102 and 103, effective March 16, 2013. Because the application from which the '601 patent issued has an effective filing date after that date, the AIA versions of §§ 102 and 103 apply.

[2] J.A. Dixon et al., *VEGF Trap-Eye for the Treatment of Neovascular Age-Related Macular Degeneration*, 18(10) EXPERT OPIN. INVESTIG. DRUGS 1573–80 (2009) ("Dixon") Ex. 1006.

[3] Adis R&D Profile, *Aflibercept: AVE 0005, AVE 005, AVE0005, VEGF Trap – Regeneron, VEGF Trap (R1R2), VEGF Trap-Eye*, 9(4) DRUGS R D 261–269 (2008) ("Adis") Ex. 1007.

[4] Press Release, *Regeneron and Bayer HealthCare Announce Encouraging 32-Week Follow-Up Results from a Phase 2 Study of VEGF Trap-Eye in Age-Related Macular Degeneration*, April 28, 2008 ("Regeneron 2008") Ex. 1012.

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Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
4	1–9, 34–39, 41–43, 45	102	NCT-795[5]
5	1, 3–11, 13, 14, 16–24, 26	103	Dixon alone or in view of Papadopoulos[6] and/or Wiegand[7]
6	1, 3–11, 13, 14, 16–24, 26	103	Dixon in combination with Rosenfeld-2006[8], and if necessary, Papadopoulos patent and/or Wiegand
7	1, 3–11, 13, 14, 16–24, 26	103	Dixon in combination with Heimann-2007, and if necessary, Papadopoulos and/or Wiegand

[5] ClinicalTrials.gov (archive), *Vascular Endothelial Growth Factor (VEGF)Trap-Eye: Investigation of Efficacy and Safety in Wet Age-Related Macular Degeneration (AMD) (VIEW1)*, *available at*: https://clinicaltrials.gov/ct2/history/NCT00509795?A=8&B=9&C=merged #StudyPageTop (last visited December 21, 2022) Ex. 1014.

[6] Papadopoulos et al. (US 7,374,758 B2, May 20, 2008) ("Papadopoulos") Ex. 1010.

[7] Wiegand et al. (US 7,531,173 B2, May 12, 2009) ("Wiegand") Ex. 1008.

[8] P.J. Rosenfeld et al., *Ranibizumab for Neovascular Age-Related Macular Degeneration*, 355 (14) N. ENGL. J. MED. 1419–31; Suppl. App'x 1–17 (2006) ("Rosenfeld") Ex. 1058.

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Petitioner also relies upon the Declarations of Dr. Thomas A. Albini (the "Albini Declaration," Ex. 1002) and Dr. Mary Gerritsen (the "Gerritsen Declaration," Ex. 1003).

D. The '601 Patent

The '601 patent is directed to methods for treating angiogenic eye disorders by sequentially administering multiple doses of a vascular epithelial growth factor ("VEGF") antagonist to a patient. Ex. 1001, Abstr. These methods include the administration of multiple doses of a VEGF antagonist to a patient at a frequency of once every 8 or more weeks, and are useful for the treatment of angiogenic eye disorders such as, *inter alia*, age related macular degeneration. *Id.*

In an exemplary embodiment, a single "initial dose" of VEGF antagonist ("VEGFT") is administered at the beginning of the treatment regimen (i.e., at "week 0"), two "secondary doses" are administered at weeks 4 and 8, respectively, and at least six "tertiary doses" are administered once every 8 weeks thereafter, i.e., at weeks 16, 24, 32, 40, 48, 56, etc.). Ex. 1001 cols. 2–3, ll. 63–2.

E. Representative Claim

Independent claim 34 is representative of the challenged claims, and recites:

> 34. A method for treating an angiogenic eye disorder in a patient in need thereof, said method comprising administering to the patient an effective sequential dosing regimen of a single initial dose of a VEGF antagonist, followed by one or more secondary doses of the VEGF

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antagonist, followed by one or more tertiary doses of the VEGF antagonist;

wherein each secondary dose is administered 4 weeks after the immediately preceding dose; and

wherein the VEGF antagonist is a receptor-based chimeric molecule comprising an immunoglobin-like (Ig) domain 2 of a first VEGF receptor which is VEGFR1 and an Ig domain 3 of a second VEGF receptor which is VEGFR2, and a multimerizing component

wherein each tertiary dose is administered at least 8 weeks after the immediately preceding dose;

wherein the VEGF antagonist is a receptor-based chimeric molecule comprising an immunoglobin-like (Ig) domain 2 of a first VEGF receptor which is VEGFR1 and an Ig domain 3 of a second VEGF receptor which is VEGFR2, and a multimerizing component.

Ex. 1001, col. 24, ll. 4–19.

F. Priority History of the ’601 Patent

The ’601 patent issued from U.S. Application Ser. No. 16/397,267 (the “’267 application”) filed on April 29, 2019, and claims the priority benefit of, *inter alia*, US Provisional Application Ser. No. 61/432,245, which was filed on Jan. 13, 2011. Ex. 1001, code (60).

The claims of the ’601 patent, including challenged claims 1–9, 34–39, 41–43, and 45 were allowed on November 12, 2020, and the patent issued on January 12, 2021. Ex. 1017, 5591; Ex. 1001, code (45).

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III. ANALYSIS

A. Claim Construction

The Board applies the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 100(b) (2020). Under that standard, claim terms "are generally given their ordinary and customary meaning" as understood by a person of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). "In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence." *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004)).

Petitioner initially argues that the language of the preamble reciting "a method for treating" is not limiting upon the claims. Pet. 15–22. Petitioner additionally proposes constructions for the claim terms "initial dose," "secondary dose," and "tertiary dose." *Id.* at 22–23. Finally, Petitioner argues that the limitation reciting "wherein exclusion criteria for the patient include all of…." (the "exclusion criteria") of claims 9 and 36 are not entitled to patentable weight under the printed matter doctrine. *Id.* at 23–25.

In its Preliminary Response, Patent Owner does not expressly contest Petitioner's construction of the preamble or the claim terms "initial dose," "secondary dose," and "tertiary dose." In a footnote, Patent Owner states

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that it disagrees with Petitioner's position concerning the exclusion criteria, which it argues define the scope of claims 9 and 36 and are entitled to patentable weight. Prelim Resp. 14–15 n.16. Patent Owner states that, if trial is instituted in this proceeding, it reserves the right to address the exclusion criteria, and claim construction more generally, but that it does not believe that it is necessary for the Board to decide claim construction in its Decision to Institute.

We address each of these arguments in turn.

1. Preamble

Petitioner argues the preamble is not limiting upon the claims. Pet. 15–16. Petitioner argues that: (1) the preamble is merely a statement of intended purpose and, therefore, not a limitation; and (2) the preamble provides no antecedent basis for any other claim element. *Id*. at 15–16, 18. Alternatively, argues Petitioner, if the preamble is limiting, it should be given its plain and ordinary meaning, which does not require any specific efficacy requirement. *Id.* at 18–22.

These same arguments were argued and addressed in the previous -00881 Decision. *See* Ex. 3001, 12–23. In the -00881 Decision, challenged claim 1 of US 9,254,338 B2 (the "'338 patent") recited preamble language identical to that recited in claim 34 of the '601 patent, *viz.*, "a method for treating an angiogenic eye disorder in a patient." *See* Ex. 1001 col. 21, ll. 40–41; Ex. 3001, 7. The Board found that this preamble was limiting upon the remainder of the claim. Ex. 3001, 18. Specifically, the Board found that:

> Here, the claims are directed to methods of administering, i.e., using, a VEGF antagonist for an intended purpose of "treating an angiogenic eye disorder in a patient." The Specification repeatedly characterizes the method as one for treating angiogenic eye disorders in patients. Apart from the preamble, the independent claims do not elsewhere recite or indicate any other use for the method steps comprising the administration of a VEGF antagonist. Thus, we determine that the preamble sets forth the essence of the invention—treating an angiogenic eye disorder in a patient.
>
> Additionally, we find that the preamble provides antecedent basis for claim terms "the patient" recited in the body of each independent claim, and "angiogenic eye disorders" recited in dependent claims 6, 7, 18, and 20. Indeed, without the preamble, it would be unclear to whom the doses of VEGF are administered.
>
> Thus, … in view of the evidence of record, namely, the claim language and the written description of the '338 patent, we find that the preambles of method claims 1 and 14 are limiting insofar as they require "treating an angiogenic eye disorder in a patient."

Ex. 3001, 17–18 (citations omitted). We adopt this same reasoning here and find, for the purposes of this Decision, that the preamble of claim 34 reciting "[a] method for treating an angiogenic eye disorder in a patient" is limiting upon the claims.

2. "Initial dose," "Secondary Dose," and "Tertiary Dose"

Petitioner next contends that a person of ordinary skill in the art would understand each of these claim terms as expressly defined in the '601 patent's Specification. Pet. 22. The Specification defines the claim terms as follows:

> The terms "initial dose," "secondary doses," and "tertiary doses," refer to the temporal sequence of administration of the VEGF

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> antagonist Thus, the "initial dose" is the dose which is administered at the beginning of the treatment regimen (also referred to as the "baseline dose") ; the "secondary doses" are the doses which are administered after the initial dose; and the "tertiary doses" are the doses which are administered after the secondary doses. The initial, secondary, and tertiary doses may all contain the same amount of dosing regimens, but will generally differ from one another in terms of frequency of administration.

Ex. 1001 col. 3 ll. 42–52. Petitioner also notes that the Specification further explains that "the immediately preceding dose" means "in a sequence of multiple administrations, the dose of VEGF antagonist which is administered to a patient prior to the administration of the very next dose in the sequence with no intervening doses." Pet. 22 (citing Ex.1001 col. 3, ll. 62–67; Ex.1002, ¶¶ 42–52).

For the purposes of this Decision, we adopt Petitioner's proposed construction of the claim terms "initial dose," "secondary dose," and "tertiary dose." Petitioner proposes adoption of the definitions expressly set forth in the Specification of the '601 patent, *viz.*, that the initial dose is the dose "administered at the beginning of the treatment regimen," and is followed by the secondary doses "secondary doses" are "administered after the initial dose," and the tertiary doses are "administered after the secondary doses" and may be distinguished from the secondary doses "in terms of frequency of administration." Ex. 1001 col. 3, ll. 36–44.

3. The exclusion criteria

The exclusion criteria limitation of challenged claims 9 and 36 recite "wherein exclusion criteria for the patient include (1) active intraocular

inflammation; (2) active ocular or periocular infection." *See, e.g.*, Ex. 1001 col. 21, ll. 65–67. Petitioner argues that these "exclusion criteria" are entitled to no patentable weight under the printed matter doctrine. Pet. 23.

Pointing to the two-part analysis set forth in *Praxair Distrib., Inc. v. Mallinckrodt Hosp. Prods. IP Ltd.*, 890 F.3d 1024, 1032 (Fed. Cir. 2018), Petitioner first argues that the exclusion criteria (i.e., preexisting conditions) represent informational content regarding the patient. Pet. 24. Petitioner argues that the challenged claims recite no active step of applying (or assessing the patient for) the exclusion criteria and consequently is "informational content" constituting a "mental step/printed material element." *Id*. Petitioner asserts that, even if application of the "exclusion criteria" could be inferred, the challenged claims do not dictate that any procedural step be taken, or that any alteration be made to the claimed dosing regimen. *Id.*

Turning to the second step of the *Praxair* analysis, Petitioner contends that there is no functional relationship between the exclusion criteria and the rest of the claim (i.e., the operative steps of administering a VEGF antagonist to treat an angiogenic eye disorder). Pet. 24–25. Specifically, Petitioner argues that neither the presence nor absence of any exclusion criteria dictate any changes to the actual claimed dosing steps—i.e., the operative steps remain the same. *Id.* Therefore, argues Petitioner, because the "exclusion criteria" are "directed to mental steps" that "attempt to capture informational content," and lack a functional relationship to the other steps of the claimed treatment method, the exclusion criteria should be "considered printed matter lacking patentable weight." *Id.* (quoting *Praxair*, 890 F.3d at 1033).

We are persuaded, for the purpose of this Decision, that Petitioner's argument that the exclusion criteria limitations of claims 9 and 36 are non-limiting upon the claims under the printed matter doctrine has merit. In *Praxair*, our reviewing court has held that the printed matter doctrine does not apply only to literal printed matter, but, rather, is applicable when a claim limitation "claims the content of information." *Praxair*, 890 F.3d at 1032 (quoting *In re DiStefano*, 808 F.3d 845, 848 (Fed. Cir. 2015)). "Claim limitations directed to the content of information and lacking a requisite functional relationship are not entitled to patentable weight because such information is not patent eligible subject matter under 35 U.S.C. § 101." *Id.* (citing *AstraZeneca LP v. Apotex, Inc.*, 633 F.3d 1042, 1064 (Fed. Cir. 2010)).

If a claim limitation is directed to printed matter, the next step in the *Praxair* analysis is to determine whether the printed matter is functionally related to its "substrate," i.e., whether the printed material is "interrelated with the rest of the claim." *Praxair*, 890 F.3d at 1032. Printed matter that is functionally related to its substrate is given patentable weight. *Id.* (citing *DiStefano*, 808 F.3d at 850). However, "[w]here the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability." *Id.* (quoting *In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004).

In the case presently before us, there is little question that the exclusion criteria are directed to informational content. Specifically, the limitation in question expressly states that the "exclusion criteria for the patient include all of: (1) active intraocular inflammation; (2) active ocular or periocular infection; (3) any ocular or periocular infection within the last

2 weeks." This list of conditions relays direct information to the practitioner of the patent as to the nature of the exclusion criteria, much in the manner of the listing of contraindications included with the packaging of any other drug. The exclusion criteria are certainly analogous to claim 1 in *Praxair*, in which the practitioner of the claimed "method of providing pharmaceutically acceptable nitric oxide gas" included providing information [to the medical provider]

> [T]hat, in patients with preexisting left ventricular dysfunction, inhaled nitric oxide may increase pulmonary capillary wedge pressure (PCWP), leading to pulmonary edema, the information of (ii) being sufficient to cause a medical provider considering inhaled nitric oxide treatment for a plurality of neonatal patients who (a) are suffering from a condition for which inhaled nitric oxide is indicated, and (b) have pre-existing left ventricular dysfunction, to elect to avoid treating one or more of the plurality of patients with inhaled nitric oxide in order to avoid putting the one or more patients at risk of pulmonary edema.

Praxair, 890 F.3d at 1028–29. These limitations of claim 1 of *Praxair* (quoted above) and the exclusion criteria of the present challenged claims 9 and 36 both provide information to the practitioner of the respective claimed methods concerning criteria to assess risks that may be incurred when practicing the method with a patient.

However, we do not find that the exclusion criteria of the challenged claims are functionally related to the rest of the claim. The claims do not expressly recite any positive step to be performed (or a negative step *not* to be performed) should a patient meet the exclusion criteria. An individual practicing the method of the challenged claims would be free to ignore the conditions of the exclusionary criteria and still be practicing the claimed method. Granted, the outcome for the patient in either case might well be

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unfortunate, but there are no positive or negative limitations in the challenged claims that require a person of ordinary skill in the art to act, or not act, in a certain way to practice the claimed method. As such, the information provided by the exclusionary criteria can be considered to be optional information, in that there is no direction to the practitioner to perform, or not perform, any specific step based upon the provided criteria. Thus, the exclusionary criteria are strictly informational, without requiring the practitioner to act, or refrain from acting, in a specified manner, and not functionally related to the practice of the claimed method.

We consequently find, for the purpose of this Decision, that the exclusion criteria are not limiting upon challenged claims 9 and 36 under the printed matter doctrine. The parties may wish to further develop their respective arguments upon this issue at trial.

B. A Person of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art would have: (1) knowledge regarding the diagnosis and treatment of angiogenic eye disorders, including the administration of therapies to treat said disorders; and (2) the ability to understand results and findings presented or published by others in the field. Pet. 25–26. Petitioner asserts that such a person would typically have an advanced degree, such as an M.D. or Ph.D. (or equivalent, or less education but considerable professional experience in the medical, biotechnological, or pharmaceutical field), with practical academic or medical experience in (i) developing treatments for angiogenic eye disorders, including through the use of VEGF antagonists, or (ii) treating

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of same, including through the use of VEGF antagonists. *Id.* at 26 (citing Ex. 1002 ¶¶ 27–29; Ex. 1003 ¶¶ 21–25).

Patent Owner does not expressly contest this definition of a person of ordinary skill in the art in its Preliminary Response. For the purposes of this decision, because we find Petitioner's definition to be consistent with the level of skill in the art (*see, e.g.*, Exs. 1006, 1020), and in the absence of a different proposed definition of the level of skill in the art by Patent Owner, we consequently adopt Petitioner's definition.

C. Ground 1: Anticipation under 35 U.S.C. § 102 of claims by Dixon (Ex. 1006)

Claims 1, 3–11, 13, 14, 16–24, and 26 of the '601 patent are challenged as unpatentable under 35 U.S.C. § 102 as being anticipated by Dixon. Pet. 43–50.

In the -00881 Decision we determined that claim 1 of the '338 patent was unpatentable under 35 U.S.C. § 102 as anticipated by Dixon. For the convenience of the reader, we present a claim chart comparing independent claim 34 of the present challenged claims and claim 1 of the '338 patent in the -00881 Decision:

IPR2022-01226 US 10,888,601 B2 Claim 34	**IPR2021-00881 US 9,254,338 B2 Claim 1 (unpatentable)**
34. A method for treating an angiogenic eye disorder in a patient *in need thereof*,	1. A method for treating an angiogenic eye disorder in a patient,
said method comprising administering to the patient *an*	said method comprising sequentially administering to the patient

effective sequential dosing regimen of a single initial dose of a VEGF antagonist, followed by one or more secondary doses of the VEGF antagonist, followed by one or more tertiary doses of the VEGF antagonist	a single initial dose of a VEGF antagonist, followed by one or more secondary doses of the VEGF antagonist, followed by one or more tertiary doses of the VEGF antagonist;
wherein each secondary dose is administered 4 weeks after the immediately preceding dose; and wherein each tertiary dose is administered at least 8 weeks after the immediately preceding dose	wherein each secondary dose is administered 2 to 4 weeks after the immediately preceding dose; and wherein each tertiary dose is administered at least 8 weeks after the immediately preceding dose;
wherein the VEGF antagonist is a receptor-based chimeric molecule comprising an immunoglobin-like (Ig) domain 2 of a first VEGF receptor which is VEGFR1 and an Ig domain 3 of a second VEGF receptor which is VEGFR2, and a multimerizing component.	wherein the VEGF antagonist is a VEGF receptor-based chimeric molecule comprising (1) a VEGFR1 component comprising amino acids 27 to 129 of SEQ ID NO:2; (2) a VEGFR2 component comprising amino acids 130–231 of SEQ ID NO:2; and (3) a multimerization component comprising amino acids 232–457 of SEQ ID NO:2.

As should be readily apparent to the reader, challenged claim 34 of the present Petition and claim 1 of the ’338 patent are substantially identical: the preamble adding only that the method is to be administered to a patient

"in need thereof" and the first limitation additionally reciting that the administration of primary, secondary, and tertiary doses is "an effective sequential dosing regimen." With respect to the former, Dixon discloses the VIEW 1/VIEW 2 clinical trials in which the claimed composition is administered to approximately "1200 patients with neovascular [Age-related macular degeneration ("AMD")] in the US and Canada." Ex. 1006, 1575. AMD is an angiogenic eye disorder. *Id.* at 1573. We consequently find that patients with AMD would constitute patients who are in need of treatment for an angiogenic eye disorder.

With respect to the limitation reciting "an effective sequential dosing regimen," we find that a person of ordinary skill in the art would understand that a sequence of primary, secondary, and tertiary doses would constitute a sequence of doses, as taught by Dixon, and that Dixon teaches that sequenced dosing of 0.5 mg–2.0 mg of the claimed compound received effective benefit from the treatment. *See* Ex. 1006, 1575.

The final limitation of challenged claim 34 is broader than claim 1 of the '338 patent in the -00881 Decision in that it does not require a specific SEQ ID of amino acids for either of the VEGFR1 and VEGFR2 components of the receptor-based chimeric molecule. Challenged claim 34 merely requires: (1) an immunoglobin-like ("Ig") domain 2 of a first VEGF receptor which is VEGFR1; (2) an Ig domain 3 of a second VEGF receptor which is VEGFR2; and (3) a multimerizing component. Nevertheless, the specific sequences recited in claim 1 of the '338 patent fall squarely within the broader genus recited in challenged claim 34 of the '601 patent. Furthermore, Dixon discloses that "[s]tructurally, VEGF Trap-Eye is a fusion protein of key binding domains of human VEGFR-1 and -2 combined

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with a human IgG Fe fragment (Figure 1)." Ex. 1006, 1575. Figure 1 of Dixon is reproduced below:

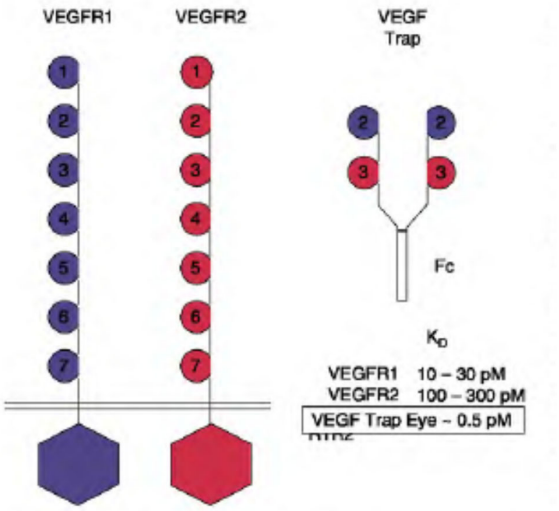

Figure 1 of Dixon is a schematic diagram of VEGF Trap-Eye, a fusion protein of binding domains of VEGF receptors-1 and -2 attached to the Fc fragment of human IgG.

Because, in the -00881 Decision, we concluded that claim 1 of the '338 patent is anticipated by Dixon, we incorporate here by reference our reasoning in the -00881 Decision with respect to the corresponding limitations of challenged claim 34 of the '601 patent. *See* -00881 Decision, 26–46. We therefore conclude that Petitioner has demonstrated a reasonable likelihood of prevailing at trial in demonstrating that claim 34 of the '601 is unpatentable as being anticipated by Dixon.

Furthermore, because we have determined that Petitioner has shown a reasonable likelihood of prevailing at trial in demonstrating that at least one claim is unpatentable on at least one of the stated Grounds, we institute an *inter partes* review of all challenged claims of the '601 patent, based on all of the grounds identified in the Petition. *See SAS Inst., Inc. v. Iancu*, 138 S.

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Ct. 1348, 1359–60 (2018); *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require "a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition").

D. Discretionary Denial of Institution under 35 U.S.C. § 314(a)

1. *General Plastic* analysis

Patent Owner urges us to exercise our discretion to deny institution of trial under 35 U.S.C. §314(a) under the analysis set forth in *General Plastic Indus. Co. v. Canon Kabushiki Kasha*, IPR2016-01357, 2017 WL 3917706 (PTAB Sept. 6, 2017) (precedential). Prelim. Resp. 25. Under *General Plastic*, when exercising our discretion to deny institution, we may consider a number of factors:

1. whether the same petitioner previously filed a petition directed to the same claims of the same patent;
2. whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it;
3. whether at the time of filing of the second petition the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the first petition;
4. the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition;
5. whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent;
6. the finite resources of the Board; and

7. the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

General Plastic, Paper 19 at 9–10. The purpose of the analysis thus established in *General Plastic* is to deny a Petitioner successive attacks on the claims of a single patent, and profiting from those prior attempts by altering a petition's strategy in response to Patent Owner's and the Board's responses.

Patent Owner argues that Petitioner's alleged delay in filing the present Petition is an attempt to leverage information acquired during the course of IPR2021-00881 to bolster arguments made in the present Petition. Prelim Resp. 25–26. Patent Owner argues that, although *General Plastic* addresses circumstances where a petitioner serially challenges the same patent, the Board has signaled a willingness to consider a *General Plastic* argument when, e.g., a second petition challenges a related patent with a common specification to the first challenged patent. *Id.* at 27–28 (citing *Microsoft Corp. v. Uniloc 2017 LLC*, IPR2019-01251, 2019 WL 7000081, *3 (PTAB Dec. 20, 2019); *Abiomed, Inc. v. Maquet Cardiovascular, LLC*, IPR2017-02134, 2018 WL 1840065, *2–6 (PTAB Apr. 16, 2018)).

Patent Owner voices an urgent concern that institution imposes a tremendous burden on the Board and Patent Owner, and notes that "[t]here may be other reasons besides the 'follow-on' petition context," as is the case here, because "the 'effect … on the … integrity of the patent system'… favors denying a petition even though some claims meet the threshold standards for institution under 35 U.S.C. §§ 314(a) and 324(a)." Prelim. Resp. 28 (quoting PTAB, *Consolidated Trial Practice Guide* at 58 (Nov.

2019), *available at*: https://www.uspto.gov/about-us/news-updates/consolidated-trial-practice-guide-november-2019 (last visited December 20, 2022) ("CTPG")).

We decline to exercise our discretion to deny institution under 35 U.S.C. § 314(a) on this basis. Indeed, we conclude that we need not even employ the multifactor *General Plastic* analysis outlined above. As Patent Owner correctly points out, *General Plastic* is directed to instances where a petitioner serially challenges the same patent. *See General Plastic*, Paper 19 at 8. Such is not the case here, although we agree with Patent Owner that the '601 patent shares a common Specification with the '338 patent and that the claims of the two patents are highly similar. *See* Prelim. Resp. 27. Nevertheless, the very reason that Patent Owner advances for denying institution of *inter partes* review of the challenged claims of the '601 patent, i.e., the "effect … on the … integrity of the patent system," in fact argues forcefully *for* institution in the present case. In the previous -00881 Decision, we determined that the claims of the '338 patent were unpatentable as being anticipated by Dixon. We have explained above why we find that Petitioner has shown a reasonable likelihood of demonstrating that the substantially identical challenged claim 34 of the '601 patent is similarly anticipated by Dixon.

In short, we concluded, in the -00881 Decision, that all of the limitations of a claim that is substantially similar to the present challenged independent claim 34 are unpatentable. In effect, Patent Owner is asking us to exercise our discretion to deny institution of *inter partes* review of at least one substantially identical challenged claim that had been previously determined to be unpatentable. We find that the "effect … on the …

integrity of the patent system," of exercising our discretion to deny institution of *inter partes* review of the challenged claims would be, in fact, directly injurious to that integrity because it would deny *inter partes* review of challenged claims highly similar to those that have already been found to be unpatentable in a prior proceeding of the Board. We consequently deny Patent Owner's request to exercise our discretion under § 314(a) to deny institution of *inter partes* review upon this basis.

2. *Fintiv* analysis

Patent Owner also urges us to exercise our discretion to deny institution of *inter partes* review under § 314(a) based on the factors established in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, 2020 WL 2126495, *2–3. (PTAB Mar. 20, 2020) (precedential). Prelim. Resp. 38. Patent Owner points to the parallel district court litigation in *Regeneron Pharms., Inc. v. Mylan Pharms. Inc.*, 1:22-cv-00061-TSK (N.D.W. Va.), and argues that: (1) the district court has not granted a stay in that case, nor has one been requested (*Fintiv* factor 1); (2) the district court has scheduled a trial date of June, 2023, which would precede the Board's Final Written Decision in this *inter partes* review (*Fintiv* factor 2); (3) the parties have made substantial investments in the district court litigation (*Fintiv* factor 3); (4) the validity of the '601 patent is central to both proceedings (*Fintiv* factor 4); and (5) the parties are identical in both proceedings (*Fintiv* factor 5). Prelim. Resp. 40–46, Sur-Reply 4. Patent Owner contends that there are no additional factors that warrant institution (*Fintiv* factor 6).

We decline to exercise our discretion under *Fintiv* to deny institution of *inter partes* review. On June 21, 2022, the Director of the USPTO issued

an *Interim Procedure for Discretionary Denials in AIA Postgrant Proceedings with Parallel District Court Litigation*, *available at*: https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf (last visited December 22, 2022) (the "Interim Procedure"). The Interim Procedure explains that "to benefit the patent system and the public good, the PTAB will not rely on the *Fintiv* factors to discretionarily deny institution in view of parallel district court litigation where a petition presents compelling evidence of unpatentability." Interim Proc. 2.

Specifically, the Interim Procedure states that:

> Where the information presented at the institution stage is merely sufficient to meet the statutory institution threshold, the PTAB has the authority, where warranted, to exercise discretion to deny institution in view of the other *Fintiv* factors. In contrast, where the PTAB determines that the information presented at the institution stage presents a compelling unpatentability challenge, that determination alone demonstrates that the PTAB should not discretionarily deny institution under *Fintiv*.

Interim Proc. 4–5 (footnotes omitted). In a footnote to this passage, the Director explains that "[t]his clarification strikes a balance among the competing concerns of avoiding potentially conflicting outcomes, avoiding overburdening patent owners, and strengthening the patent system by eliminating patents that are not robust and reliable." *Id.* at 5.

As we explain in Section III.C. above, challenged independent claim 34 of the '601 patent is essentially the same as claim 1 of the '338 patent in IPR2021-00881. In that proceeding, claim 1 of the '338 patent was determined in the -00881 Decision to be unpatentable under 35 U.S.C. § 102 as being anticipated by Dixon, which is also Ground 1 of the present

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proceeding. We consequently conclude that the evidence of unpatentability of at least challenged claim 34 in this *inter partes* review is compelling. We therefore adhere to the Interim Procedure in this Decision and decline to exercise our discretion to deny institution of *inter partes* review upon this basis.

E. Discretionary Denial of Institution under 35 U.S.C. § 325(d)

Finally, Patent Owner urges us to exercise our discretion to deny institution under 35 U.S.C. § 325(d). Prelim. Resp. 5. Petitioner takes a contrary position, arguing that the Board should not deny institution under 35 U.S.C. § 325(d). Pet. 7–11. We address these arguments below.

1. Legal standard

Under § 325(d), we have discretion to deny a petition that presents the same or substantially the same prior art or arguments as previously presented to the Office. *See* 35 U.S.C. § 325(d). In evaluating whether the factual predicate under § 325(d) is met, we consider a number of non-exclusive factors, as set forth in our decision in *Becton, Dickinson and Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential) ("the *Becton, Dickinson* factors"):

(a) the similarities and material differences between the asserted art and the prior art involved during examination;

(b) the cumulative nature of the asserted art and the prior art evaluated during examination;

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(c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;

(d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;

(e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and

(f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson, IPR2017-01586, Paper 8 at 17–18.

In performing an analysis under § 325(d):

> [T]he Board uses the following two-part framework: (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.… If, after review of [*Becton, Dickinson*] factors (a), (b), and (d), it is determined that the same or substantially the same art or arguments previously were presented to the Office, then factors (c), (e), and (f) relate to whether the petitioner has demonstrated a material error by the Office.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential).

Consequently, we first turn to an analysis of *Becton, Dickinson* factors (a), (b), and (d) under this framework to determine whether the same or substantially the same art previously was presented to the Office or whether

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the same or substantially the same arguments previously were presented to the Office.

2. Part one of the *Advanced Bionics* analysis

Because the Dixon reference formed the basis of our conclusion in the -00881 Decision that the claims of the ’338 patent were anticipated and is also asserted here against 1–9, 34–39, 41–43, 45 of the ’601 patent, we initially consider Dixon in our analysis.

Patent Owner represents that, during prosecution of US 10,828,345, a patent that claims priority to the ’601 patent, a third party filed a submission under 37 C.F.R. §1.290 (“TPS”) that included a complete copy of Dixon, together with a claim chart mapping Dixon’s disclosures to the then-pending claims of the ’345 Patent. Pet. 7 (citing Ex. 2004, 2). According to Patent Owner, the TPS identified the CLEAR-IT-2 dosing regimen and directed the Examiner to Section 2.3 of Dixon, which the TPS characterized as teaching that “VEGF Trap-eye is chemically identical to aflibercept.” *Id.* at 7–8 (citing Ex. 2004, 10–11). The TPS was accepted by the Office and entered into prosecution on May 31, 2019, and on October 1, 2019, the Examiner affirmatively stated that he considered the TPS and rejected the then-pending claims of the ’345 Patent as anticipated by Dixon. *Id.* (citing Ex. 2005, Ex. 2006, 3–5).

Patent Owner further relates that, during the parallel prosecution of the ’601 Patent, Patent Owner cited Dixon on two Information Disclosure Statements (“IDSes”), and the Examiner marked the reference “considered” on May 12, 2020. Prelim. Resp. 8 (citing Ex. 1017, 67, 116, 812, 820, 823). Patent Owner states that it also provided the TPS and the claim chart, along

with full copies of each, to the Examiner in the January 27, 2020 IDS; these were also marked considered by the Examiner on May 12, 2020. *Id.* (citing Ex. 1017, 116, 140–155, 812, 823). The Examiner affirmatively stated in an Office Action that he considered the relevant IDS submissions. *Id.* at 8–9 (citing Ex. 1017, 798).

We find that the evidence of record supports Patent Owner's contention that Dixon was before the Examiner during prosecution of the '601 patent. We consequently turn to the second part of the *Advanced Bionics* analysis.

3. Part two of the *Advanced Bionics* analysis

We find that the Examiner committed material error by failing to reject the claims over Dixon. In the single Office Action that occurred prior to issuing the Notice of Allowance, the Examiner rejected then-claims 21–63 as unpatentable only under the nonstatutory doctrine of obviousness-type double patenting: (1) over claims 1–26 of the '338 patent; (2) over claims 1–12 of US 9,669,069; (3) over claims 1–12 of US 10,130,861; and (4) over claims 32–42 of then-copending US Appl. Ser. No. 16/159,282. *See* Ex. 1017, 799–802. The Examiner noted that a timely-filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(c) or § 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground. *Id.* at 799.

Although Dixon was before the Examiner during prosecution of the '267 application from which the '601 patent issued, the Examiner provided no express reasoning applying Dixon to the claims of the '267 application. We conclude that it was material error on the part of the Examiner to fail to

reject the claims of the ’267 application over Dixon because, as we explained in the -00881 Decision, the claims of the ’338 patent, which are substantially identical to those of the ’267 application, were anticipated by Dixon. We have also explained why, in view of the analysis set forth in the -00881 Decision, Petitioner has established a reasonable likelihood of prevailing at trial in demonstrating that at least one of the challenged claims of the ’601 patent is unpatentable under Dixon, and that that showing amounts to compelling evidence of unpatentability. *See* Sections III.C, III.D.2 above.

Consequently, because we find the Examiner committed material error in at least not rejecting the challenged claims as being anticipated by Dixon, we decline to exercise our discretion under § 325(d) to deny institution of trial on all of the challenged claims of the ’601 patent on all Grounds of the Petition. *See SAS*, 138 S. Ct. at 1359–60; *PGS*, 891 F.3d at 1360.

IV. CONCLUSION

For the reasons we have explained, we conclude that Petitioner has demonstrated a reasonable likelihood of prevailing in demonstrating that at least challenged claim 34 of the ’601 patent is unpatentable as being anticipated by Dixon. Furthermore, because we determine that Petitioner has shown a reasonable likelihood of prevailing at trial in demonstrating that at least one claim is unpatentable on at least one of the stated Grounds, we institute *inter partes* review of all challenged claims of the ’601 patent, based on all of the grounds identified in the Petition. *See SAS*, 138 S. Ct. at 1359–60; *PGS*, 891 F.3d at 1360. We additionally deny Patent Owner’s

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request that we exercise our discretion to deny institution under 35 U.S.C. §§ 314(a) and/or 325(d).

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED, pursuant to 35 U.S.C. § 314(a), that the Petition for *inter partes* review of the challenged claims of US Patent 10,888,601 B2 is GRANTED with respect to all grounds in the Petition; and

FURTHER ORDERED that *inter partes* review is instituted.

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