

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMPLEX INNOVATIONS, LLC,
Petitioner,

v.

AMGEN INC.,
Patent Owner.

Case IPR2016-00085
Patent 7,829,595 B2

Before LORA M. GREEN, JONI Y. CHANG, and
JACQUELINE T. HARLOW, *Administrative Patent Judges*.

HARLOW, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Petitioner, Complex Innovations, LLC (“CI”), filed a Petition requesting an *inter partes* review of claims 1–25 of U.S. Patent No. 7,829,595 B2 (Ex. 1001, “the ’595 patent”). Paper 2 (“Pet.”). Patent Owner, Amgen, Inc. (“Amgen”), filed a Preliminary Response on February 2, 2016. Paper 7 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless the information presented in the petition “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.”

For the reasons set forth below, we deny the Petition.

A. Related Matters

No related proceedings concerning the ’595 patent have been identified. Pet. 4; Paper 5, 2.

B. The ’595 Patent

The ’595 patent, titled “Rapid Dissolution Formulation of a Calcium Receptor-Active Compound,” issued November 9, 2010, from U.S. Patent Application No. 10/937,870 (Ex. 1002), filed September 10, 2004. Ex. 1001, [54], [45], [21], [22]. The ’595 patent claims priority to U.S. Provisional Patent Application No. 60/502,219, filed September 12, 2003. *Id.* at [60].

The '595 patent describes a “pharmaceutical composition comprising a therapeutically effective amount of a calcium receptor-active compound and at least one pharmaceutically acceptable excipient, wherein the composition has a controlled dissolution profile.” *Id.* at Abstract. The '595 patent also describes methods for treating diseases, including hyperparathyroidism, using the disclosed pharmaceutical composition. *Id.* at 4:17–22.

The '595 patent explains that although calcium receptor-active compounds, such as cinacalcet, are known in the art, the low solubility of these compounds in water limits pharmaceutical formulation and delivery options, and can result in low bioavailability for these compounds. *Id.* at 1:7–20. To address these limitations, the '595 patent discloses a pharmaceutical composition including cinacalcet and six excipients: microcrystalline cellulose, povidone, starch, crospovidone, colloidal silicon dioxide, and magnesium stearate. *Id.* at 11:14–14:14. The '595 patent also discloses a method for treating hyperparathyroidism, hyperphosphonia, hypercalcemia, or elevated calcium phosphorus product, through the administration of this composition. *Id.* at 4:17–22, 16:14–20.

C. Illustrative Claim

Of the challenged claims, claims 1 alone is independent. Claim 1, reproduced below, is illustrative of the claimed subject matter.

1. A pharmaceutical composition comprising
 - (a) from about 10% to about 40% by weight of cinacalcet HCl;
 - (b) from about 40% to about 75% by weight of microcrystalline cellulose;
 - (c) from about 1% to about 5% by weight of povidone;
 - (d) from about 5% to about 35% by weight of starch;
 - (e) from about 1% to about 10% by weight of crospovidone;
 - (f) from about 0.05% to about 1.5% by weight of colloidal silicon dioxide; and
 - (g) from about 0.05% to about 1.5% by weight of magnesium stearate;wherein the percentage by weight is relative to the total weight of the composition.

Ex. 1001, 14:16–19:31.

D. Prior Art Relied Upon

CI relies upon the following prior art references (Pet. 4–6):

Van Wagenen et al., US 6,211,244 B1, issued Apr. 3, 2001 (“Van Wagenen”) (Ex. 1003); and

Handbook of Pharmaceutical Excipients (Arthur H. Kibbe, ed., 3rd ed. 2000) (“HPE”) (Exs. 1012; Ex. 2005 (includes portions of reference not contained in Ex. 1012)).

E. Asserted Grounds of Unpatentability

CI asserts the following grounds of unpatentability (Pet. 7):

Claims	Basis	Reference(s)
1–25	§ 103(a)	Van Wagenen, HPE, and general knowledge of a person of ordinary skill in the art.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015) (“Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA,” and “the standard was properly adopted by PTO regulation.”), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 890 (mem.) (2016). Under this standard, we may take into account definitions or other explanations provided in the written description of the specification. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). Only those terms that are in controversy need be construed, and only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Neither party proposes any claim term for construction. Furthermore, we determine that, for purposes of this decision, it is unnecessary to interpret any claim term recited in the challenged claims of the ’595 patent.

B. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida [v. Ag Pro, Inc.]*, 425 U.S. 273 (1976)] and *Anderson’s–Black Rock [v. Pavement Salvage Co.]*, 396 U.S. 57 (1969)] are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

KSR, 550 U.S. at 417. However, “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *Id.* at 418. “[T]here must be some

articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); *see also KSR*, 550 U.S. at 418.

The level of ordinary skill in the art is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

*C. Obviousness Grounds of Unpatentability
Based on Van Wagenen, HPE, and the Knowledge of
a Person of Ordinary Skill in the Art*

CI asserts that claims 1–25 are unpatentable under § 103(a) as obvious in view of Van Wagenen, HPE, and the general knowledge of a person of ordinary skill in the art. Pet. 14–32. Claims 2–25 depend, directly or indirectly, from claim 1. CI relies on a Declaration of Dr. Walter Chambliss (Ex. 1021) to support its position.

Amgen contends that CI’s reliance on the general knowledge of an ordinarily skilled artisan to establish that the claimed weight range of cinacalcet was known in the art is improper. Prelim. Resp. 20. Amgen further asserts that CI fails to demonstrate a reason for, or expectation of success in, combining the cited references to arrive at the claimed composition. *Id.* at 21–22. In particular, Amgen argues that CI fails to identify a reason to select cinacalcet as an active agent in view of its low solubility, fails to articulate a reason to select the six claimed excipients over other possible excipient combinations, and fails to establish a reason for

selecting the claimed weight ranges for cinacalcet and the recited excipients. *Id.* at 23–31. Amgen additionally contends that CI is incorrect in its assertion that Amgen bears the burden of proving that the claimed ingredient weight ranges set forth in the ’595 patent are non-obvious. *Id.* at 33–34.

Van Wagenen

Van Wagenen describes compounds that “can mimic or block the effect of extracellular calcium on a cell surface calcium receptor.” Ex. 1003, 2:1–3. Van Wagenen discloses that “[i]n a preferred embodiment, the compound is a calcimimetic acting on a parathyroid cell calcium receptor and reduces the level of parathyroid hormone in the serum of the patient.” *Id.* at 6:48–51; *see also id.* at 11:30–53. Van Wagenen also states that “[s]uitable dosage ranges, formulations, and dosage forms for other compounds described herein can also be determined by one skilled in art based on the teachings provided in the application.” *Id.* at 44:42–45.

HPE

HPE is a reference text that discloses “essential data on the physical properties of excipients such as: boiling point, bulk and tap density, compression characteristics, hygroscopicity, flowability, melting point, moisture content, moisture-absorption isotherms, particle size distribution, rheology, specific surface area, and solubility.” Ex. 2005, xv. HPE lists properties for 210 excipients, including microcrystalline cellulose, povidone, starch, crospovidone, colloidal silicon dioxide, and magnesium stearate. *Id.* at v–vi; *see also* Ex. 1012, 3–28.

In describing the properties of the disclosed excipients, HPE identifies “related substance(s) to help the formulator develop a list of possible materials for use in a new dosage form or product.” Ex. 2005, xv. HPE cautions, however, that “[r]elated substances are not directly substitutable for each other but are excipients that have been used for similar purposes in various dosage forms.” *Id.*

from about 10% to about 40% by weight of cinacalcet HCl

CI contends that “Van Wagenen discloses pharmaceutical compositions containing cinacalcet hydrochloride.” Pet. 14. CI points to the ’595 patent, not Van Wagenen itself, to support this contention. *Id.* CI further asserts that “the ranges of the cinacalcet hydrochloride and excipients disclosed in Claim 1 are common ranges known to a POSITA.” *Id.* In support of this position, Dr. Chambliss testifies that “[t]he percentage by weight of [active pharmaceutical ingredient (“API”)] in a pharmaceutical composition such as a tablet is determined through routine experimentation. Based on my experience, pharmaceutical compositions containing from about 10% to about 40% by weight of an API are common.” Ex. 1021 ¶ 76. Dr. Chambliss also testifies that “as pointed out by Van Wagenen, ‘suitable dosage ranges, formulations, and dosage forms’ can be ‘determined by one skilled in the art.’” *Id.* at ¶ 77.

In response, Amgen observes that CI relies on the general knowledge of a relevant skilled artisan, rather than the teachings of the prior, as disclosing the claimed range of cinacalcet. Prelim. Resp. 20. Amgen asserts that “[a]s a legal matter, deficiencies in the prior art references cannot be

remedied by citation to the General Knowledge” of a skilled artisan. *Id.* at 21 (citing *Eizo Corp. v. Barco N.V.*, Case IPR2014-00358, slip op. at 16 (PTAB July 23, 2014) (Paper 11) (“Although basic knowledge available to a person with ordinary skill in the art may provide a reason to combine elements in a prior art, it does not establish the presence of the element itself.”)).

The evidence presented by CI in this record is insufficient to persuade us that there is a reasonable likelihood that CI will prevail in showing that claims 1–25 are unpatentable under § 103(a) as obvious in view of Van Wagenen, HPE, and the general knowledge of a person of ordinary skill in the art. Each challenged claim recites a pharmaceutical composition comprising “from about 10% to about 40% by weight of cinacalcet HCl,” (Ex. 1001, 14:16–19:31), however, CI does not identify any disclosure in the prior art that an amount by weight of cinacalcet HCl within the claimed range should be used. Indeed, CI fails to identify any disclosure of cinacalcet in the prior art at all, much less an amount of cinacalcet for inclusion in a pharmaceutical composition. Rather, CI relies exclusively on the Specification of the ’595 patent to support a finding that Van Wagenen discloses cinacalcet. Pet. 14; *see also* Ex. 1021 ¶ 75; Ex. 1001, 2:18–28 (“The calcimimetic compounds and calcilytic compounds useful in the present invention include those disclosed in, for example . . . U.S. Pat. No[.] . . . 6,211,244 . . .”).

Moreover, Dr. Chambliss does not offer testimony that the claimed range of cinacalcet would have been obvious based on the cited prior art.

See, e.g., Ex. 1021 ¶ 73–96. Rather, Dr. Chambliss testifies that “[t]he percentage by weight of API in a pharmaceutical composition such as a tablet is determined through routine experimentation. Based on my experience, pharmaceutical compositions containing from about 10% to about 40% by weight of an API are common.” *Id.* at ¶ 76. Dr. Chambliss’ testimony is insufficient to establish that it would have been obvious to include from about 10% to about 40% by weight of cinacalcet HCl in a pharmaceutical composition.

Dr. Chambliss fails to articulate any reason why a skilled artisan would choose an amount from about 10% to about 40% by weight for cinacalcet. First, the exemplary pharmaceutical compositions Dr. Chambliss identifies as supporting his testimony that “pharmaceutical compositions containing from about 10% to about 40% by weight of an API are common” do not include cinacalcet.¹ *Id.* And Dr. Chambliss does not identify any reason that the amount of active agent included in the exemplary compounds would suggest the amount of cinacalcet that should be included in a pharmaceutical composition. *Id.*

Second, Dr. Chambliss’ exemplary compositions contain as little as 0.14% active agent, to as much as 60% active agent. *Id.* Out of the 13

¹ Dr. Chambliss cites to 11 references (Exs. 1004–1015) as corroborating prior art to establish what would have been general knowledge to one skilled in the art at the time of invention. Ex. 1021 ¶¶ 49–73. CI does not otherwise rely on these references as part of the asserted grounds of unpatentability. *See* Pet. 14, note 1.

exemplary compositions identified by Dr. Chambliss as supporting a finding that it would have been obvious to include from about 10% to about 40% by weight of cinacalcet in the claimed composition, 5 disclose amounts of active agent that do not overlap with this claimed range at all. *Id.* Third, Dr. Chambliss acknowledges that “[t]he amount of the same API in a particular pharmaceutical composition is known to vary as well.” *Id.*

Given the evidence before us, we do not find Dr. Chambliss’ testimony persuasive, as the evidence he relies upon does not support his conclusion. *See Rohm and Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997) (nothing requires a fact finder to credit the inadequately explained testimony of an expert).

Accordingly, CI has not shown a reasonable likelihood of prevailing in showing that it would have been obvious to include from about 10% to about 40% by weight of cinacalcet HCl in a pharmaceutical composition.

Rationale to Combine

We also observe that CI has not established a reason to combine cinacalcet, microcrystalline cellulose, povidone, starch, crospovidone, colloidal silicon dioxide, and magnesium stearate to arrive at the claimed composition.

As set forth above, CI asserts, without identifying where, that Van Wagenen discloses cinacalcet, and that it would be within the general knowledge of a skilled artisan to use from about 10% to about 40% by weight of cinacalcet in a pharmaceutical composition. Pet. 14; Ex. 1021 ¶¶ 75–76. CI further contends that “the ranges of the cinacalcet

hydrochloride and excipients disclosed in Claim 1 are common ranges known to a POSITA,” and thus, a skilled artisan “would have been motivated to formulate cinacalcet hydrochloride with well-known excipients and in the ranges disclosed with a reasonable expectation of success.”

Pet. 14–15; *see also* Ex. 1021 ¶¶ 75–77.

In support of this conclusion, CI notes that “the HPE contains all of the claimed excipients and teaches their use in various percentage weight ranges.” Pet. 15. CI also relies on Dr. Chambliss’s testimony that a relevant skilled artisan “reading the HPE would know that microcrystalline cellulose, povidone, starch, crospovidone, colloidal silicon dioxide, and magnesium stearate may be used with cinacalcet hydrochloride in a manner that would yield an expected result without interfering with the therapeutic effect of the cinacalcet hydrochloride.” Ex. 1021 ¶ 95.

In addition, CI argues that “market pressure to select [the] claimed excipients arose from the need to manufacture a commercial product. The HPE explains what each excipient is and why a POSITA should be encouraged to use it.” Pet. 16. Dr. Chambliss testifies that:

Given the fact that excipients are typically included in pharmaceutical compositions, it would be obvious to include excipients in the claimed composition. It also would be obvious to include them in the claimed ranges. A POSITA would be motivated to combine the teachings of these references to formulate a cinacalcet hydrochloride tablet with commonly used excipients without undue experimentation. This combination would be the natural result of routine formulation development. In particular, a POSITA reading Van Wagenen with these other references would be motivated to prepare the disclosed

formulation. (Van Wagenen, col. 44, lines 39–45 (“Suitable dosage ranges, formulations, and dosage forms for other compounds described herein can also be determined by one skilled in art based on the teachings provided in the application.”)).

Ex. 1021 ¶ 94.

Amgen counters that CI fails to provide a reason why a relevant skilled artisan would have selected cinacalcet as an active ingredient, or combined it with the six claimed excipients. Prelim. Resp. 23–24. In addition, Amgen observes that HPE discloses 210 excipients, many of which have similar properties to the claimed excipients. *Id.* at 26; *see also* Ex. 2005, v–vi. Amgen asserts that CI’s failure to explain why a relevant skilled artisan would have selected each claimed excipient over other excipients with the same properties is fatal to CI’s obviousness argument. Prelim. Resp. 26–27. Amgen argues also that Dr. Chambliss “does not even *attempt* to assert that there had been a motivation to select the claimed combination of components over other possibilities.” Prelim. Resp. 27.

We agree with Amgen that CI has not provided sufficient evidence to support the determination that a relevant skilled artisan would have combined cinacalcet with the six recited excipients to arrive at the claimed composition. As explained above, CI does not articulate a reason why a relevant skilled artisan would have selected cinacalcet for inclusion in a pharmaceutical composition, or even identify where in Van Wagenen cinacalcet is disclosed as a useful calcimimetic compound. Additionally, neither CI nor Dr. Chambliss identifies a reason a relevant skilled artisan

would have selected the claimed combination of excipients from among the 210 options presented by HPE.

Dr. Chambliss' testimony that a skilled artisan "would know that [the claimed excipients] *may* be used with cinacalcet hydrochloride in a manner that would yield an expected result without interfering with the therapeutic effect of the cinacalcet hydrochloride," (Ex. 1021 ¶ 95 (emphasis added)), is insufficient to establish that a skilled artisan "would have combined elements from specific references in the way the claimed invention does," *ActiveVideo Networks, Inc. v. Verizon Communications, Inc.*, 694 F.3d 1312, 1328 (Fed. Cir. 2012) (emphasis omitted). "[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Kahn*, 441 F.3d at 988.

Similarly, Dr. Chambliss' testimony that "it would be obvious to include excipients in the claimed composition" and that a skilled artisan "would be motivated to combine the teachings of these references to formulate a cinacalcet hydrochloride tablet with commonly used excipients without undue experimentation" as a matter of "routine formulation development" (Ex. 1021 ¶ 94), is improperly conclusory, and insufficient to establish that a skilled artisan would have combined the claimed compounds as set forth in the '595 patent. *See* 37 C.F.R. § 42.65(a); Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,763 ("Affidavits expressing an opinion of an expert must disclose the underlying facts or data upon which the opinion is based."); *ActiveVideo Networks*, 694 F.3d at 1328.

Moreover, contrary to Dr. Chambliss' intimation (Ex. 1021 ¶ 94), the generic statement in Van Wagenen that "[s]uitable dosage ranges, formulations, and dosage forms for other compounds described herein can also be determined by one skilled in the art based on the teachings provided in the application" (Ex. 1003, 44:39–45), does not render the claimed cinacalcet formulation obvious. *See Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1373 (Fed. Cir. 2008) ("[K]nowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references to reach the particular claimed method.").

Conclusion

For the foregoing reasons, we determine that the information presented in the Petition fails to establish a reasonable likelihood that CI would prevail in challenging claims 1–25 of the '595 patent.

III. ORDER

In consideration of the foregoing, it is

ORDERED that the Petition is DENIED and no trial is instituted.

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