

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LUPIN LIMITED and LUPIN PHARMACEUTICALS INC.,
Petitioner,

v.

iCEUTICA PTY LTD.,
Patent Owner.

Case IPR2016-00399
Patent 9,017,721 B2

Before TONI R. SCHEINER, SHERIDAN K. SNEDDEN, and
ZHENYU YANG, *Administrative Patent Judges*.

YANG, *Administrative Patent Judge*.

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

INTRODUCTION

Lupin Limited and Lupin Pharmaceuticals, Inc. (collectively “Petitioner”) filed a Petition for an *inter partes* review of claims 1–24 of U.S. Patent No. 9,017,721 B2 (Ex. 1001, “the ’721 patent”). Paper 1 (“Pet.”). iCeutica Pty Ltd. (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). We review the Petition under 35 U.S.C. § 314.

Based on this record, we determine Petitioner has not established a reasonable likelihood that it would prevail in showing the unpatentability of at least one challenged claim. *See* 35 U.S.C. § 314(a). Therefore, we deny the Petition for an *inter partes* review.

Related Proceedings

According to the parties, Patent Owner previously asserted the ’721 patent against Petitioner in *iCeutica Pty Ltd. v. Lupin Limited*, No. 1:14-cv-01515 (D. Del.). Pet. 1; Paper 5, 3.

Petitioner also concurrently filed a petition in IPR2016-00397, seeking an *inter partes* review of U.S. Patent No. 8,999,387 B2, a patent in the same family as the ’721 patent. Pet. 1–2; Paper 5, 3.

The ’721 Patent

The ’721 patent relates to methods for producing particles of diclofenac using dry milling processes and methods for treating pain using a therapeutically effective amount of diclofenac in particulate form. Ex. 1001, Abstract, 1:18–24.

The ’721 patent discloses that diclofenac, a pain medication, “is a poorly water soluble drug so dissolution and absor[p]tion to the body is slow.” *Id.* at 3:7–11. At the time of the ’721 patent invention, it was known

that decreasing particle size increases the surface area of a particulate drug, which in turn increases the rate of its dissolution. *Id.* at 1:45–47. According to the '721 patent, then-existing dry milling techniques used to reduce particle size, however, have various drawbacks. *Id.* at 1:53–61, 2:66–67. The '721 patent purportedly discloses a milling process that overcomes such problems. *Id.* at 2:67–3:4. Diclofenac made by this process has improved dissolution and faster absorption, which result in a more rapid onset of the therapeutic effect. *Id.* at 3:11–17.

Illustrative Claims

Among the challenged claims, claims 1 and 8 are independent. Claim 1 is representative and is reproduced below:

1. A solid oral unit dose of a pharmaceutical composition containing 18 mg of diclofenac acid, wherein the diclofenac acid has a median particle size, on a volume average basis, of less than 1000 nm and greater than 25 nm, wherein the unit dose, when tested in vitro by USP Apparatus I (Basket) method of U.S. Pharmacopoeia at 100 rpm, at 37° C. in 900 ml of 0.05% sodium lauryl sulfate in citric acid solution buffered to pH 5.75, has a dissolution rate of diclofenac acid such that at least 94%, by weight, is released by 75 minutes.

Claim 8 is similar to claim 1, except it recites “a pharmaceutical composition containing 35 mg of diclofenac acid,” and the unit dose “has a dissolution rate of diclofenac acid such that at least 95%, by weight, is released by 75 minutes.”

Asserted Grounds of Unpatentability

Petitioner asserts the following grounds, each of which challenges the patentability of claims 1–24:

Basis	References
§ 103	Meiser ¹ and Norvatis Package Insert ²
§ 103	Meiser, Norvatis Package Insert, USP, ³ and Chuasuwan ⁴
§ 103	Meiser, Norvatis Package Insert, USP, Chuasuwan, and Reiner ⁵

In support of its patentability challenge, Petitioner relies on the Declaration of Dr. Mansoor M. Amiji. Ex. 1002.

ANALYSIS

Claim Construction

In an *inter partes* review, the Board interprets a claim term in an unexpired patent according to its broadest reasonable construction in light of the specification of the patent in which it appears. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, No. 15-446, 2016 WL 3369425 (U.S. June 20, 2016).

Claim terms need only be construed to the extent necessary to resolve the controversy. *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011). On this record and for purposes of this Decision, we see no need to construe any term expressly.

¹ Meiser et al., *International Pub. No.* WO2008/000042, published on January 3, 2008 (Ex. 1005, “Meiser”).

² Novartis Package Insert for Cataflam®, Voltaren®, and Voltaren®-XR, dated May 2000 (Ex. 1006, “Norvatis Package Insert”).

³ United States Pharmacopeia 30, Sections <711> and <1092>, dated May 2007 (Exs. 1007, 1008, collectively “USP”).

⁴ Chuasuwan et al., *Biowaiver Monographs for Immediate Release Solid Oral Dosage Forms Diclofenac Sodium and Diclofenac Potassium*, 98 J. PHARM. SCIS. 1206–19 (2009) (Ex. 1009, “Chuasuwan”).

⁵ Reiner et al., *International Pub. No.* WO2006/133954, published on December 21, 2006 (Ex. 1010, “Reiner”).

Obviousness over Meiser and Norvatis Package Insert

Petitioner contends that the combination of Meiser and the Norvatis Package Insert renders claims 1–24 obvious. Pet. 36–47. Based on the record before us, and for at least the following reasons, we determine Petitioner has not established a reasonable likelihood that it would prevail in this assertion.

Petitioner asserts that the combination of Meiser and Norvatis Package Insert teaches or suggests all limitations of the asserted claims. Specifically, Petitioner refers to Norvatis Package Insert for teaching tablets of diclofenac, in the form of 25 mg, 50 mg, and 75 mg diclofenac sodium. *Id.* at 38–39; Ex. 1006, 2. According to Petitioner, diclofenac, like other non-steroidal anti-inflammatory drugs (NSAIDs), has been associated with some side effects. Pet. 4–5 (citing Ex. 1009, 1208). Petitioner argues, “one of ordinary skill knew at the time of the ’721 patent that reducing the required dose of NSAIDs, such as diclofenac, would reduce the known negative side-effects of NSAIDs.” *Id.* at 5.

Petitioner then refers to Meiser where it teaches improving the solubility of diclofenac acid by dry milling to obtain nanoparticles. *Id.* at 9 (citing Ex. 1005, 6–7, 27–28). Petitioner points out that compounds in nonparticulate form “exhibit advantages over conventional compounds by way of, for example, more rapid therapeutic action or lower dose.” *Id.* at 39 (citing Ex. 1005, 7).

Petitioner concludes an ordinary artisan “would have been motivated to combine the prior art dosages in the Novartis Package Insert with the teachings of Meiser to develop a formulation containing a dosage lower than

the prior art dosages.” *Id.* at 38. Specifically, according to Petitioner, “starting from the 25 mg disclosed the Novartis Package Insert,” the claimed dose of 18 mg of diclofenac acid in claim 1 “would have been the result of merely routine optimization.” *Id.* at 39. Similarly, to reduce the side effects of diclofenac acid, “it would have been obvious to lower the 50 mg dose described in the Novartis Package Insert to 35 mg,” as recited in claim 8. *Id.* at 44 (citing Ex. 1002 ¶ 111). We are not persuaded.

The challenged claims are directed to a solid oral unit dose of a pharmaceutical composition containing diclofenac acid. The Novartis Package Insert, however, provides information on diclofenac salts. *See* Ex. 1006, 1 (describing diclofenac “as the sodium or potassium salt”), 2 (providing diclofenac sodium tablets in the doses of 25 mg, 50 mg, and 75 mg). Formulating water-soluble salts and reducing drug particle size through milling are two independent methods to improve the solubility of a poorly soluble drug. Ex. 1001, 1:65–67, 2:34–37. Petitioner acknowledges so. Pet. 6. Petitioner also acknowledges the drawbacks of the salt approach. *Id.* Petitioner further appears to recognize that diclofenac salt and diclofenac acid may have different properties. *See, e.g.*, Pet. 57 (stating that the formulation in Reiner, a prior art reference not relied on in this obviousness challenge, “includes diclofenac sodium, not diclofenac acid”). Yet, Petitioner does not point to credible evidence or otherwise explain why an ordinary artisan would have modified 25 mg and 50 mg of diclofenac sodium taught in the Novartis Package Insert to reach 18 mg and 35 mg of diclofenac acid recited in claims 1 and 8, respectively. Thus, we are not

persuaded that the combination of the Novartis Package Insert and Meiser teaches or suggests the claimed dosage.

In sum, based on the record before us, we determine that Petitioner has not shown a reasonable likelihood that it would prevail in showing the challenged claims would have been obvious over Meiser and the Novartis Package Insert.

Obviousness over Meiser, Norvatis Package Insert, USP, and Chuasuwan

Petitioner contends that the combination of Meiser, the Norvatis Package Insert, USP, and Chuasuwan renders claims 1–24 obvious. Pet. 47–56. Based on the record before us, and for at least the following reasons, we determine Petitioner has not established a reasonable likelihood that it would prevail in this assertion.

USP teaches performing the dissolution procedure in Apparatus 1 at 37°C. Ex. 1007, 278, 282; Ex. 1008, 581. It suggests the agitation speed, volume, surfactants, pH range, and time points for measuring the dissolution. Ex. 1008, 580–81.

Chuasuwan reviews the solubility of diclofenac salts. Ex. 1009, 8. According to Chuasuwan, at “below pH 4.5 (or pH 5.8, depending on the tablet strength),” diclofenac salts are not highly soluble. *Id.* at 9.

In this obviousness challenge, Petitioner repeats that the combination of Meiser and the Novartis Package Insert suggests 18 and 35 mg of diclofenac acid, as recited in claims 1 and 8, respectively. Pet. 50. Petitioner relies on USP and Chuasuwan to address the dissolution profile, and not the dosage, of diclofenac acid. See Pet. 51–55. In other words, the addition of USP and Chuasuwan does not remedy the deficiency of Meiser

and the Novartis Package Insert, as discussed above. As a result, we determine that Petitioner has not shown a reasonable likelihood that it would prevail in this obviousness challenge.

*Obviousness over Meiser, Norvatis Package Insert, USP,
Chuasuwana, and Reiner*

Petitioner argues that the combination of Meiser, the Norvatis Package Insert, USP, Chuasuwan, and Reiner renders claims 1–24 obvious. Pet. 57–58. Based on the record before us, we determine Petitioner has not established a reasonable likelihood that it would prevail in either assertion.

Reiner teaches performing the USP dissolution test to determine dissolution times for diclofenac sodium tablet and capsule to dissolve “90 or 95 wt.% of the drug substance.” Ex. 1010, 22. In a preferred embodiment, Reiner teaches the dissolution profile is “not less than 85, 90 or 95% after 15 minutes in simulated intestinal fluid (i.e. water) at pH=6.8.” *Id.*

In this obviousness challenge, Petitioner relies on Reiner to address the dissolution profile, and not the dosage, of diclofenac acid. *See* Pet. 57–58. In other words, Reiner does not remedy the deficiency of Meiser and the Novartis Package Insert, as discussed above. As a result, we determine that Petitioner has not shown a reasonable likelihood that it would prevail in this additional obviousness challenge.

CONCLUSION

On this record, Petitioner has not demonstrated a reasonable likelihood of prevailing on its challenges to the patentability of any challenged claim of the ’721 patent on the grounds asserted in the Petition.

ORDER

Accordingly, it is

ORDERED that Petitioner's request for an *inter partes* review of claims 1–24 of the '721 patent is *denied* and no *inter partes* review is instituted.

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