2006-1261

IN THE
UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

PFIZER, INC.,

Plaintiff-Appellee,

v.

APOTEX, INC.,

Defendant-Appellant.

Appeal from the United States District Court for the Northern District of Illinois in 03-CV-5289, Judge James M. Rosenbaum.

AMICUS BRIEF OF BIOTECHNOLOGY INDUSTRY ORGANIZATION IN SUPPORT OF PLAINTIFF-APPELLEE PFIZER, INC.'S PETITION FOR REHEARING AND REHEARING *EN BANC*

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CERTIFICATE OF INTEREST

Counsel for Biotechnology Industry Organization certifies the following:

1. The full name of every party or amicus represented by me is:

   Biotechnology Industry Organization

2. The name of the real party in interest represented by me is:

   Biotechnology Industry Organization

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party represented by me are:

   None

4. There is no such corporation as listed in paragraph 3.

5. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

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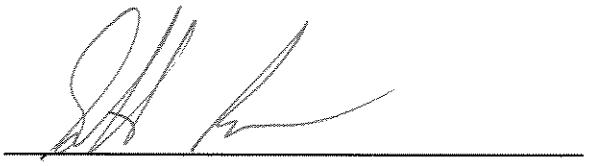

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I. INTEREST OF THE AMICUS CURIAE

The Biotechnology Industry Organization (BIO) is a trade association consisting of more than 1000 companies, academic institutions, and biotechnology centers. BIO members are involved in research and development relating to healthcare, agricultural, and environmental products. The biotechnology industry currently has more than 370 biotechnology-based drugs in clinical trials studying treatments for more than 200 diseases. Biotechnology research often involves systematic study of the effects and properties of materials and components of biological systems that are generally known in the art. It is the particular suitability of the combination of instrumentalities selected to solve a particular problem that often leads to commercially important products. The patentability of such advances is important to the continued viability of the biotechnology industry and is threatened by the type of obviousness analysis conducted by the Panel in this case.

BIO has no stake in the parties to this litigation or the result in the case, nor have the parties contributed to preparing this brief. Plaintiff-Appellee Pfizer is a member of BIO.

II. INTRODUCTION

BIO agrees with the positions taken in the rehearing petition filed by Plaintiff-Appellee ("Pfizer") but writes separately to emphasize the negative

impact the changes to the law of obviousness articulated by the Panel will have on the biotechnology industry. *En banc* review is warranted because the Panel's decision is inconsistent with prior precedent and, if allowed to stand, will cause considerable uncertainty as to what types of discoveries will be adjudged to be nonobvious. This confusion will lead to a decreased investment in research and development and increased litigation costs in the biotechnology industry as patents are challenged based on this new standard of obviousness.

III. ARGUMENT

A. The Panel Opinion Misapprehends the Nature and Scope of Improvement Inventions

The invention claimed in this case is a prototypical "improvement" (the besylate salt) on an earlier basic invention (amlodipine). The Panel misapprehended the nature of the improvement by assuming that the purpose of the invention was merely to increase the "bioavailability of amlodipine." (Slip Op. at 24, 39.) The evidence in this case unambiguously established that the purpose of formulating amlodipine into a besylate salt was to solve interrelated problems unique to pharmaceutical development -- to find a salt form that has superior stability, solubility, and "stickiness" (mixing, blending, and tableting) properties in comparison to a prototype salt and relative to the other members of the class of salts generally disclosed in the prior art, without tradeoffs in bioavailability and

efficacy. Slip Op. at 5. In drug development science, such problems are far from trivial and an acceptable solution is rarely predictable. The successful balancing of desirable product attributes such as drug shelf life, solubility, potency, toxicity, and efficacy is often critical to the ultimate success of a candidate drug, and medicinal chemists and formulation scientists commonly spend inordinate amounts of time, money, and effort on finding solutions to such problems.

Importantly, Congress specifically authorized issuance of patents on such new and useful improvements of existing inventions. 35 U.S.C. § 101. This Court's precedent clearly allows patent protection for such improvements, even incremental ones. *Glaxo Group Ltd. v. Apotex, Inc.*, 376 F.3d 1339, 1349 (Fed. Cir. 2004) (affirming nonobviousness of amorphous drug in light of prior art crystalline forms of the same drug because there was no suggestion "that highly pure amorphous [] product would have better bioavailability and stability than a crystalline form").

By definition, an "improvement" invention does not alter the fundamental nature of the thing improved. All that is required for patentability of the improvement is an unobvious effect, usually a beneficial effect, on some property or attribute of the basic invention. The issuance of such patents does not foreclose access to all forms of the basic invention. Properly claimed improvement

inventions are narrower in scope and are limited to specific embodiments of the basic invention in which the newly discovered property or attribute is manifested.

This case involves a very narrowly claimed improvement invention -- a particular salt form of a single, known molecular species. The undisputed evidence in this case shows that the particular salt form claimed represents a non-obvious improvement because, in the as-yet unpredictable art of pharmaceutical formulations, the advantages of the patented invention compared to the closest prior art salt forms could not have been reasonably predicted.

If the benefits of the claimed invention at issue in the present case were indeed trivial, a competitor was free to use one of the salts specifically disclosed in the prior art. As Judge Rich observed nearly half a century ago:

> A monopoly on something nobody wants is pretty much a nullity. That is one of the beauties of the patent system. The reward is measured automatically by the popularity of the contribution.

Giles S. Rich, *Principles of Patentability*, 28 Geo. Wash. L. Rev. 2, 393, 402 (1960).

The popularity of the present invention, and thus its value, have been endorsed in this case by the conduct of the accused infringer. In order to sell amlodipine, it was not necessary to copy the present improvement invention. Congress authorized two pathways for obtaining approval for follow-on drug products under sections 505(b)(2) and 505(j), respectively, of the Federal Food,

Drug, and Cosmetic Act. Codified at 21 U.S.C. §§ 355(b)(2), 355(j). Section 505(b)(2) provides a mechanism for seeking approval to market a modified but nonetheless bioequivalent formulation, such as a different and unpatented salt form. *See Pfizer Inc. v. Dr. Reddy's Labs. Ltd.*, 359 F.3d 1361, 1364 (Fed. Cir. 2004). The infringer here, however, selected the 505(j) pathway for approval by making a literal copy of the patented salt form. Thus, the actual copying of the patented invention -- in lieu of practicing any of a host of readily available, but unpatented, alternatives -- should further bolster the conclusion of non-obviousness.

B. The Panel Improperly Discounted the Value of the Invention Based On the Way It Was Made

The Panel seems to have discounted the value of the invention here based on the way the invention was made. (Slip Op. at 33-34.) This, of course, is contrary to 35 U.S.C. § 103(a). Section 103(a) expressly states that "[p]atentability shall not be negatived by the manner in which the invention was made." This provision was added to the Patent Act of 1952 to make clear that "it is immaterial whether it resulted form long toil and experimentation or from a flash of genius." P.J. Federico, *Commentary on the New Patent Act*, reprinted in 75 JPTOS 161, 181-184 (1993). By emphasizing the manner in which the invention was made, the Panel failed to follow the legislative intent and important public policy goals underlying the Patent Act.

In the past, this Court has preserved the incentive to innovate in high technological fields, including the biotechnology industry, by rigorously applying its own precedent and ***not*** holding claims obvious based merely on the way the invention was achieved. *See, e.g., In re Bell*, 991 F.2d 781 (Fed. Cir. 1993) (allowing patent claims to DNA encoding a protein for which an allegedly obvious method of isolating it was known). The freedom to operate outside the legitimate bounds of such inventions was maintained by ensuring that such claims complied with the enablement and written description requirements of 35 U.S.C. § 112. *In re Vaeck,* 947 F.2d 488, 495-496 (Fed. Cir. 1991) (holding broad claims invalid where not commensurate in scope with enablement). This approach maximizes innovation by adequately protecting new discoveries, even those of narrow scope, while at the same time allowing room for competition. This important balance will be destroyed if biological improvement inventions are allowed to be attacked as obvious simply because they are similar to other biological compounds and where developed by systematic testing and screening procedures.

Considerable research in biotechnology is devoted to incremental improvements of existing inventions. Thus, part of the 8 years and 1.2 billion dollars needed, on average, to advance a biotechnology product from bench to bedside is spent on discovering and developing modified proteins, polynucleotides, vectors, promoters, and cell lines with improved properties. Tufts Center for the

Study of Drug Development, *Cost to develop new biotech products is estimated to average $1.2 billion,* 8 Impact Report 1(Nov./Dec. 2006). Often the goal of modifying a therapeutic protein is not to increase efficacy but rather improved stability, bioavailability, lower antigenicity, and other properties analogous to the benefits achieved by the besylate salt of amlodipine. The goal of developing modified vectors or cell lines is often not to produce entirely novel products but rather to produce products with a higher yield, enhance ease of purification, or improve control over manufacturing processes. These efforts often involve systematic and persistent investigation using well-characterized techniques and principles. Nevertheless, the results can be critical to success of the product and unobvious in view of the prior art. Patent protection is essential to justify investment in the resulting biotechnology products. By suggesting that these types of endeavors are not worthy of even the narrow protection secured by the patent here at issue, the Panel's decision is inconsistent with prior precedent of this Court, inconsistent with § 103, and threatens the incentive to invest in biotechnology research.

C. The Panel's Decision as to What Constitutes a Reasonable Expectation of Success Contradicts the Precedent of this Court

This Court has repeatedly held that "obvious to try" is not the correct legal standard for determining obviousness. *Gillette Co. v. S.C. Johnson & Son, Inc.*, 919 F.2d 720, 725 (Fed. Cir. 1990) (commenting that "we have consistently held

that 'obvious to try' is not to be equated with obviousness"). Instead, this Court has consistently held that, to establish a prima facie case of obviousness, there must be a reasonable expectation of success that the invention will work for its intended purpose. *Eli Lilly and Co. v. Zenith Goldline Pharm., Inc.*, 471 F.3d 1369, 1377 (Fed. Cir. 2006). The Panel, however, analyzed the reasonable expectation of success issue by improperly focusing on the inventor's own thought processes. (Slip Op. at 25, 26, 29, 38-39.) This clear legal error is a grave departure from this Court's precedent, and deserves *en banc* review. It is well-settled law that an inventor's state of mind should not be relevant to the obviousness inquiry. *Life Techs., Inc. v. Clontech Lab.*, Inc., 224 F.3d 1320, 1325 (Fed. Cir. 2000) ("Because patentability is assessed from the perspective of the hypothetical person of ordinary skill in the art, information regarding the subjective motivations of inventors is not material"); *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985) ("Inventors, as a class . . . possess something . . . which sets them apart from the workers of ordinary skill, and one should not go about determining obviousness . . . by inquiring into what patentees . . . would have known or would likely have done, faced with the revelations of references.")

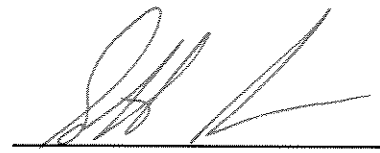
The Panel's rationale was tantamount to sub silentio adoption of a "reasonable to the inventor" standard. Adoption of such a standard would obviate

a large percentage of goal-oriented biotechnology research. Indeed, laboratory notebooks often clearly state the objective of an experiment and the hoped-for results before an experiment is performed. Testing the predictive value of laboratory research is central to the scientific-method and is not an accurate indication of the required reasonable expectation of ultimate success. If the Panel's rationale is allowed to stand, scientists would not dare to articulate the results they hoped to achieve in their experiments without the risk of invalidating any patent later sought for their invention. Furthermore, a biotechnology firm would worry that the justification to continue or begin a project could later be used as evidence that the result was expected and therefore obvious. The Panel's decision in this regard contradicts the well-established precedent of this Court, represents poor public policy, and warrants *en banc* review by this Court.

IV. CONCLUSION

For the foregoing reasons, amicus curiae respectfully requests that the petition of Plaintiff-Appellee for rehearing *en banc* be granted.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I hereby certify that on April 11, 2007, two true and correct copies of the foregoing *AMICUS* BRIEF OF BIOTECHNOLOGY INDUSTRY ORGANIZATION IN SUPPORT OF PLAINTIFFS PFIZER, INC'S PETITION FOR REHEARING AND REHEARING *EN BANC* were served by the indicated means to the persons at the addresses listed:

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