ANTIBODY PATENTS ARE NOT IMMUNE TO § 112: AMGEN INC. V. SANOFI, AVENTISUB LLC

Date: 14 December 2017

IP Litigation Alert

By: Trevor M. Gates, Christopher B. Roberts, Jackson Ho

In Amgen v. Sanofi, the Federal Circuit held that evidence that first came into existence after the priority date may be considered in determining whether a genus patent claim satisfies the written description requirement under 35 U.S.C. § 112. In addition, the Federal Circuit rejected the "newly characterized antigen" test as a means of satisfying the written description requirement for a claim to an antibody.

BACKGROUND AND DISTRICT COURT DECISION

Amgen sued Sanofi, alleging that Sanofi's Praluent® product infringed Amgen's U.S. Patent Nos. 8,829,165 and 8,859,741 (collectively, "Amgen's patents"). Amgen's patents share a common specification and are directed toward antibodies that help rid the body of "bad cholesterol" or "low-density lipoprotein" cholesterol known as LDL-C. Those antibodies target PCSK9, a naturally occurring protein, and prevent PCSK9 from binding to and destroying liver cell receptors (LDL-R) that help extract LDL-C from the bloodstream. [1] Notably, Amgen's patents do not claim any particular antibody by amino acid sequence, but instead claim the entire genus of antibodies that bind to at least one of 15 specified amino acid residues of PCSK9 and block PCSK9 from binding to LDL-R. The specifications disclose a trial-and-error process "used to generate and screen antibodies that bind to PCSK9 and block PCSK9 from binding to LDL-Rs." [2] Amgen's patents, which both issued in 2014, have an "undisputed priority date of January 9, 2008."

Sanofi developed Praluent®, a monoclonal antibody that also targets PCSK9 to prevent it from binding to and destroying LDL-R proteins. Sanofi identified the amino acid sequence of Praluent® and sought FDA approval in 2014.

In district court, Sanofi "stipulated to infringement but challenged the patents' validity on written description, enablement, and obviousness grounds." [3] Sanofi argued that Amgen's patents did not disclose enough species of antibodies to provide written description support for claims to the entire genus of antibodies that bind to PCSK9 at the specified amino acid residues. To prove lack of written description, Sanofi sought to introduce post-priority-date evidence (evidence that did not exist until after the priority date of Amgen's patent) of additional species of antibodies (including Praluent®) and the process by which they are discovered. [4] However, the district court excluded all post-priority-date evidence as not relevant to the state of the art at the time Amgen filed its applications. In addition, the district court instructed the jury that written description can be satisfied "by the disclosure of a newly-characterized antigen . . . if you find that the level of skill and knowledge in the art of antibodies at the time of filing was such that production of antibodies against such an antigen was conventional or routine." [5] In light of this, the patents were held not invalid in a jury trial, and the district court granted a permanent injunction prohibiting the sale of Sanofi's drug "Praluent®."

THE FEDERAL CIRCUIT DECISION

The Federal Circuit reversed the district court's decision to exclude Sanofi's post-priority-date evidence of lack of written description and lack of enablement. [6] The district court excluded the post-priority-date evidence because it did not illuminate the state of the art at the time of filing of Amgen's patents. [7] The Federal Circuit, however, found that such evidence was "not being introduced [by Sanofi] to illuminate the state of the art on the priority date but to show that the patent purportedly did not disclose a representative number of species." [8]

Amgen argued that In re Hogan [9] prohibited the use of post-priority-date evidence to show that a patent lacks written description based on failure to disclose a representative number of species. The Federal Circuit disagreed, stating that the district court and Amgen "misread In re Hogan by conflating the difference between post-priority-date evidence proffered to illuminate the post-priority-date state of the art, which is improper, with post-priority-date evidence proffered to show that a patent fails to disclose a representative number of species." [10]

Additionally, the Federal Circuit rejected the "newly characterized antigen" test in the district court's jury instructions. That test allowed the jury to find that a claim to an antibody had written description support based on disclosure of the structure, formula, chemical name, or physical properties of a newly characterized antigen, so long as production of antibodies against such an antigen was conventional or routine. [11] The Federal Circuit disagreed. Instead, the applicants must disclose a sufficient number of species of antibodies, or adequately describe the characteristics of the genus of antibodies, such that the species may be recognized by those skilled in the art. [12]

Amgen argued that the jury instruction was proper because it merely restated the law as set forth in Enzo Biochem, Inc. v. Gen-Probe Inc. [13] In Enzo, the Federal Circuit found that claims directed to nucleic acid probes satisfied the written description requirement, despite being defined by their function. There the court noted that "not all functional descriptions of genetic material fail to meet the written description requirement." [14] Here, however, the Federal Circuit distinguished the Enzo claims to nucleic acid probes from the instant antibody claims, and stated that "the precedential value of cases in this area is extremely limited." [15] The Federal Circuit suggested that functional terminology may provide adequate written description "when the art has established a correlation between structure and function" to such an extent that a court can take judicial notice of such correlation. [16] The Federal Circuit, however, declined to take judicial notice that such a correlation exists between antibody structure and function in this case.

The Federal Circuit reversed on the jury instructions and remanded the case for a new trial. [17]

LOOKING FORWARD

This opinion provides some guidance for patent prosecution and litigation of antibody patents. Based on this decision, a patent applicant should consider disclosing as many species as possible when claiming a genus of antibodies. In addition, litigants should consider using post-priority-date evidence when asserting lack of written description against genus claims. Furthermore, the Federal Circuit's opinion is potentially applicable to other receptor-binding patent claims in the biological arts.

[1] The body naturally clears LDL-C from the bloodstream by expressing a receptor known as LDL-R. This receptor, which resides most prominently on the cell-surface of the liver, binds with LDL-C and facilitates the

destruction of LDL-C via endocytosis. However, LDL-R can be destroyed if it binds to PCSK9.
[2] Amgen Inc. v. Sanofi Aventisub LLC, Opinion No. 17-1480 (Fed. Cir., Oct. 5, 2017). The specification also discloses the "three dimensional structures, obtained via x-ray crystallography, of two antibodies known to bind to residues recited in the claims" and "the amino acid sequences of twenty-two other antibodies that . . . compete . . . for binding to PCSK9."
[3] Id. at 6.
[4] Id. at 7.
[5] Id. at 6.
[6] Id. at 3.
[7] Id. at 7.
[8] Id. at 9.
[9] 559 F.2d 595 (C.C.P.A. 1977).
[10] Amgen at 10 (emphasis added).
[11] Id. at 12.
[12] The Federal Circuit found the district court's jury instructions for written description improper, because the instructions effectively allowed the jury to deem any antibody within a claim adequately described if it could be easily "produced." This, the Federal Circuit stated, would "run afoul of what is perhaps the core ruling of Ariad."
[13] 323 F.3d 956 (Fed. Cir. 2002).
[14] Id. at 964.
[15] Id. at 15.
[16] Id. at 17.
[17] Amgen, Opinion No. 17-1480 at 3.

KEY CONTACTS

TREVOR M. GATES
ASSOCIATE
SEATTLE
+1.206.370.8090
TREVOR.GATES@KLGATES.COM

