IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK
WHITE PLAINS DIVISION

14 CV 1651

REGENERON PHARMACEUTICALS, INC.,

Plaintiff,

v.

ABLEXIS LLC,

Defendant.

Civil Action No. _____

COMPLAINT FOR PATENT INFRINGEMENT

DEMAND FOR JURY TRIAL

JUDGE SEIBEL

Plaintiff Regeneron Pharmaceuticals, Inc. ("Regeneron") hereby alleges a claim for patent infringement against Defendant Ablexis LLC ("Ablexis") as follows:

INTRODUCTION

1. Regeneron brings this action to remedy Ablexis's infringement of Regeneron's intellectual property concerning genetically engineered animals used in making human biopharmaceutical therapeutics, including human antibodies.

2. Regeneron's groundbreaking work in this field has resulted in the creation of Regeneron's VelocImmune® technology. VelocImmune® is the culmination of the insights of a group of dedicated scientists led by Regeneron's Chief Scientific Officer, Dr. George D. Yancopoulos.

3. Ablexis is an entity funded by four of the largest pharmaceutical companies in the world, including Pfizer Venture Investments (a member of the Pfizer, Inc. conglomerate (collectively, "Pfizer")) and three other companies who have chosen to conceal their relationship with Ablexis.

4. Ablexis's sole business purpose appears to be directed to a genetically modified mouse that infringes Regeneron's intellectual property.

THE PARTIES

5. Regeneron is a corporation organized and existing under the laws of the State of New York, with its principal place of business at 777 Old Saw Mill River Road, Tarrytown, New York 10591. Regeneron was founded in New York in 1988 by a Cornell University professor—Dr. Leonard S. Schleifer—and a prominent research scientist from Columbia University—Dr. George D. Yancopoulos. Drs. Schleifer and Yancopoulos both trained as physician scientists, doctors who focus on finding innovative ways to use science to advance the care of patients.

6. Regeneron is now a global leader in biopharmaceutical research and development with approximately 2,500 employees. Through pioneering science and a commitment to innovation, Regeneron develops, manufactures, and commercializes medicines for the treatment of serious medical conditions, including Neovascular (Wet) Age-Related Macular Degeneration, one of the leading causes of blindness in the world; Cryoprin-Associated Periodic Syndrome (CAPS), a rare and debilitating hereditary condition; and Colorectal Cancer. Regeneron has received numerous honors and awards, including being named the 2012 Biotech Company of the Year.

7. Regeneron has two primary locations, both of which are in the State of New York. Regeneron's research and administrative offices are located in Tarrytown, New York. Regeneron has a manufacturing facility in Rensselaer, New York.

8. Regeneron is informed and believes, and on that basis alleges, that Ablexis is a corporation organized and existing under the laws of Delaware, with its principal place of business at 409 Illinois Street, San Francisco, California 94158.

BACKGROUND FACTS

15. One of the most important biological molecules in nature is the antibody. Antibodies, which are produced by our immune systems, attack foreign organisms such as viruses and bacteria. The power of antibodies, however, can also be harnessed to treat some of the most serious diseases of our age, including cancers and immune disorders. Creating antibodies that effectively treat disease in humans can be a difficult and inefficient process. To address these problems, Regeneron scientists launched a scientific research program to design a rodent that could create an extraordinary diversity of human antibodies in a rapid and efficient manner. This type of rodent is known as a "genetically modified" animal. Earlier generations of genetically modified animals used to produce antibodies suffered from serious health and functionality issues. Regeneron's work led to the creation of the VelocImmune® mouse. The VelocImmune® mouse makes part-human and part-mouse antibodies, which allows the VelocImmune® mouse to mount a healthy, functional and diverse immune response to produce antibodies that can be used in making human therapeutics. This work led to the grant of an important family of patents throughout the world. One of these patents, the subject of this action, is United States Patent No. 8,502,018 (the "'018 Patent"). The named inventors include Regeneron's Chief Scientific Officer Dr. George D. Yancopoulos and Senior Vice President of Regeneron Laboratories Dr. Andrew Murphy.

16. After graduating from Bronx High School of Science and Columbia University, Dr. Yancopoulos earned a Ph.D. in Biochemistry and Molecular Biophysics and an M.D. from Columbia University. In 1989, Dr. Yancopoulos joined Regeneron as its founding scientist. Dr. Yancopoulos was the 11th most highly cited scientist in the world in the 1990s and was elected in 2004 to the U.S. National Academy of Sciences.

Dr. Yancopoulos is the recipient of numerous additional honors and awards, including Columbia University's Stevens Triennial Prize for Research and Columbia's University Medal of Excellence for Distinguished Achievement.

17. Dr. Murphy earned a B.S. in Molecular Biology from the University of Wisconsin and a Ph.D. in Human Genetics from Columbia University. He joined Regeneron in 1999 as Director of Genomics and Bioinformatics. Dr. Murphy was later named Vice President of Gene Discovery and Bioinformatics in 2001, Vice President of Target Discovery in 2005, and Senior Vice President of Regeneron Laboratories in 2013.

18. Following on the demonstrated success of the VelocImmune® technology, the biopharmaceutical community recognized the power of Regeneron's inventions to create new genetically modified mice useful in making antibody therapeutics. A group of venture capitalists, in concert with four of the largest pharmaceutical companies in the world (Pfizer and three other companies who have concealed their involvement), funded Ablexis—an entity whose sole apparent purpose is to create and use a genetically modified mouse that copies Regeneron's intellectual property.

19. Ablexis has closely followed Regeneron's research. Ablexis's Chief Executive Officer, Larry L. Green, has published articles acknowledging the importance of Regeneron's work. Larry L. Green, *Transgenic Mouse Strains as Platforms for the Successful Discovery and Development of Human Therapeutic Monoclonal Antibodies*, 4.10 CURRENT DRUG DISCOVERY TECHS. 1, 3 (2013) ("scientists at Regeneron used a different engineering design to create the VelocImmune™ mouse platform . . . [n]otably different from the previous transgenic mice engineered for human therapeutic antibody discovery, the VelocImmune mouse technology produces chimeric antibodies that have human variable regions attached to fully mouse constant regions").

20. Ablexis's patent applications before the United States Patent and Trademark Office also cite to the patent family that includes the '018 Patent.

21. Unfortunately, Ablexis's appreciation of the novelty and importance of Regeneron's work did not extend to respecting Regeneron's intellectual property. When Regeneron put Ablexis on notice of the patent family that includes the '018 Patent, Ablexis claimed that it did not use Regeneron's technology to make Ablexis's mice. Regeneron is informed and believes, and on this basis alleges, that Ablexis's representation was false. Ablexis's business is built on a willful infringement of Regeneron's intellectual property.

COUNT ONE

(Patent Infringement)

22. Regeneron re-alleges and incorporates by reference the allegations contained in paragraphs 1 through 21 above.

23. On August 6, 2013, the United States Patent and Trademark Office issued the '018 Patent, entitled "Methods of modifying eukaryotic cells," to Drs. Andrew Murphy, George Yancopoulos, Margaret Karow, Lynn Macdonald, Sean Stevens, David Valenzuela, and Aris Economides.

24. Regeneron is the owner of the entire right, title, and interest in and to the '018 Patent. A copy of the '018 Patent is attached as Exhibit A.

25. The '018 Patent includes 20 claims. By way of example, claim 9 of the '018 Patent recites:

> "[A genetically modified mouse, comprising in its germline human unrearranged variable region gene segments inserted at an endogenous mouse immunoglobulin locus] wherein the mouse produces an antibody that comprises a human variable region and a mouse constant region."

26. The '018 Patent notes:

> "A transgenic mouse is created that produces hybrid antibodies containing human variable regions and mouse constant regions. This is accomplished by a direct, in situ replacement of the mouse variable region genes with their human counterparts. The resultant hybrid immunoglobulin loci will undergo the natural process of rearrangements during B-cell development to produce the hybrid antibodies.
>
> Subsequently, fully-human antibodies are made by replacing the mouse constant region with the desired human counterparts. This approach will give rise to therapeutic antibodies much more efficiently than prrvious methods, e.g. the 'humanization' of mouse monoclonal antibodies or the generation of fully human antibodies . . . Further, this method will succeed in producing therapeutic antibodies for many antigens for which previous methods have failed. This mouse will create antibodies that are human variable region-mouse constant region, which will have the following benefits over the previously available . . . mice that produce totally human antibodies. Antibodies generated by the new mouse will retain murine Fc regions which will interact more efficiently with the other components of the mouse B cell receptor complex, including the signaling components required for appropriate B cell differentiation (such as Iga and Igb). Additionally, the murine Fc regions will be more specific than human Fc regions in their interactions with Fc receptors on mouse cells, complement molecules, etc. These interactions are important for a strong and specific immune response, for the proliferation and maturation of B cells, and for the affinity maturation of antibodies."

27. Regeneron is informed and believes, and on that basis alleges, that Ablexis has made a genetically modified mouse that comprises, in its germline, human unrearranged variable region gene segments inserted at an endogenous mouse immunoglobulin locus and that produces an antibody comprising a human variable region and a mouse constant region.

28. Regeneron is informed and believes, and on that basis alleges, that Ablexis has infringed and is currently infringing one or more claims of the '018 Patent, in violation of 35 U.S.C. § 271, literally and/or under the doctrine of equivalents, by, among other things, making, using, offering for sale, selling, and/or importing within this judicial district and elsewhere in the United States, without license or authority from Regeneron, genetically

modified mice and related products and technologies that fall within the scope of one or more claims of the '018 Patent, including for example claim 9. The infringing products include, without limitation, Ablexis's AlivaMab mouse and related products and technologies.

29. Regeneron is informed and believes, and on that basis alleges, that Ablexis has been aware of the existence of the '018 Patent.

30. Regeneron is informed and believes, and on that basis alleges, that despite awareness of the '018 Patent, Ablexis has continued to willfully, wantonly, and deliberately engage in acts of infringement of the '018 Patent, justifying an award to Regeneron of increased damages under 35 U.S.C. § 284, and attorneys' fees and costs incurred under 35 U.S.C. § 285.

31. Regeneron has suffered irreparable injury as a direct and proximate result of Ablexis's conduct for which there is no adequate remedy at law and will continue to suffer such irreparable injury.

PRAYER FOR RELIEF

WHEREFORE, Regeneron prays for relief against Ablexis as follows:

A. For a determination that Ablexis infringes and continues to infringe one or more claims of the '018 Patent;

B. For damages adequate to compensate Regeneron for Ablexis's infringement of the '018 Patent, but in no event less than either lost profits or a reasonable royalty for the use made of the invention, together with interest and costs under 35 U.S.C. § 284;

C. For a determination that Ablexis's infringement has been willful, wanton, and deliberate and that the damages against it be increased up to treble on this basis;

D. For an order enjoining the further infringement of the '018 patent, and enjoining those acts necessary to prevent further infringement of the '018 patent;

E. For an award of pre- and post-judgment interest on the damages assessed;

F. For an award of supplemental damages to Regeneron, including without limitation interest;

G. For an order providing an accounting;

H. For a determination that this is an exceptional case under 35 U.S.C. § 285 and that an award of attorneys' fees and costs to Regeneron is warranted in this action;

I. For entry of judgment against Ablexis and in favor of Regeneron in all respects; and

J. For such other and further relief as the Court deems just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Federal Rule of Civil Procedure 38(b), Regeneron hereby demands a trial by jury on all issues triable to a jury.

REGENERON PHARMACEUTICALS, INC.

By its attorneys,

Marshall A. Camp (mcamp@irell.com)
IRELL & MANELLA LLP
1800 Avenue of the Stars, Suite 900
Los Angeles, CA 90067-4276
(310) 277-1010

OF COUNSEL:

Morgan Chu (mchu@irell.com) (to be admitted *pro hac vice*)
Jason G. Sheasby (jsheasby@irell.com) (to be admitted *pro hac vice*)
David I. Gindler (dgindler@irell.com) (to be admitted *pro hac vice*)
Josh B. Gordon (josh.gordon@irell.com) (to be admitted *pro hac vice*)
IRELL & MANELLA LLP
1800 Avenue of the Stars, Suite 900
Los Angeles, CA 90067-4276
(310) 277-1010

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