The Rhineland Biopatent Gazette

brought to you by Michalski Huettermann & Partner Patent Attorneys - Issue 3/2019

Duesseldorf/Munich, **05 September 2019** The times they are a'changing – particularly in the Biopatent discipline. Biopatent professionals live in a quickly developing world, which is sometimes hard to keep pace with. Michalski • Huettermann & Partner Patent Attorneys have decided to produce relief to this situation, and are proud to present a new information service related to Patent issues in Biotechnology. This newsletter issues on an irregular basis in order to provide information with respect to actual events, as well as in-depth-analyses of long-term developments. Patent Attorneys from our firm explain the meaning of recent developments and decisions affecting the Biopatent community, and provide expert insight into what's going on behind the scenes. In this issue, we discuss two aspects of the ongoing Amgen/Sanofi debate.

Is there public need for "still another" drug ?

German Supreme Court denies compulsory license

As already discussed in this Gazette, much of the public interest related to the Sanofi vs Amgen debate focuses on the question whether, even with a valid drug patent, an injunction against a competing drug product is justified.

The injunction against Sanofi's Praluent, that came with the DC Delaware Jury's first decision, received a very critical echo in the US, because there had already been patients who had a prescription for Praluent, and who would have been deprived them of their actual heart medication.

Traditionally, US courts are inclined to not award injunctions against approved therapeutic drugs, because this would harm the public interest. Instead, damages and license payments are usually awarded (or agreed upon in respective settlements).

Rachel Sachs, an associate professor of law at Washington University in St. Louis has been cited that it would be "strange for a judge to take one product off the market when there are patients on the medicine already".

In Germany, Sanofi has been sued by Amgen for violation of their European patent EP2215124B1 before the District Court in Duesseldorf (OLG). Amgen demanded, *inter alia*, an injunction and damages.

In response, Sanofi filed an action at the German Federal Patent Court (BPatG) against Amgen's European Patent EP2215124B1 to order a

It's the enablement, stupid !

DC Delaware judge overturns decision by own jury and revokes Amgen's PCSK9 patents

The Amgen/Sanofi debate is a frequent guest in this gazette (see issues 4/2016, 7/2017, 2/2018 and 3/2018).

In a nutshell, Amgen and Sanofi both have an anti PCSK9 antibody that is used to treat hyperlipidemia. Amgen has, both in Europe and the US, patents that protect the antibody by the epitope it binds on PCSK9 (so-called epitope based claims), which, surprise, is also the epitope that Sanofi's antibody binds to.

And, surprise, Amgen sued Sanofi for patent infringement, demanding damages and injunction both in the US and Germany.

The Delaware District Court (DC Delaware), in a jury decision, declared, on January 3, 2017, the patents valid and confirmed that Sanofi's antibody would fall under the scope thereof. It also issued an injunction against Sanofi.

On appeal, the Court of Appeals for the Federal Circuit (CAFC) vacated the injunction (October 5, 2017), and then remanded the case back to the first instance, ordering the court to better instruct the jury about how to apply the proper test on validity of these types of claims.

Essentially, the problem was that epitope based claims have an inherent written description problem. Wthile they generally describe the epitope in great detail, they often describe only a few antibodies. However, once granted, the scope of such claims covers more than only those antibodies that have been described.

Hence, a right balance must be found in such way that a sufficient number of species (=described antibodies) is required to justify genus protection.

When the CAFC decision to remand the case to the first instance came out, epitope based claims were deemed practically dead at least in the US, as for example evidenced in a panel discussion at the BioConvention 2018 in Boston, to which the author of this article contributed.

However, in a decision of February 25, 2019, the Jury of DC Delaware came to the conclusion that at least some of Amgen's claims would even stand the higher bar on written description as suggested by the CAFC. Surprise,

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Save the Date – our annual Patent seminar 2020

Our annual patent seminar will take place on Thursday, April 23, 2020, in the Industrie-Club Düsseldorf.

Write an email to Ms. Felsner if you want to participate.

Rhineland Biopatent Forum – proposals ?

We are in a process of planning the Rhineland Biopatent Forum 2020, which will take place on a Thursday, most probably late May or in early June.

Do you have a topic that you find interesting, or would even like to attend as a speaker ? Let us know!

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compulsory license under reasonable royalties. Further, Sanofi demanded a preliminary order to award such license.

After an intermediate stay, the District Court resumed the infringement proceedings and issued an injunction against Sanofi on July 11, 2019.

Sanofi filed an appeal and then issued a press release according to which the appeal court would have stayed the injunction, allowing further marketing of Praluent. However, said information seems to have been incorrect, as Praluent is actually not available on the German market.

Regarding the compulsory license case, the BPatG denied Sanofi's request. *Inter alia*, the Court found that Sanofi had not sufficiently demonstrated that there was a public interest in the further free availability of Praluent, as Sanofi had failed to make convincing arguments that other products on the market - in this case, Amgen's Repatha, did not possess the (particular) therapeutic properties of Praluent in equal measure.

Sanofi appealed to the Federal Supreme Court (BGH), but the latter rejected the appeal on June 4, 2019.

The Court found that Sanofi had not sufficiently, and not early enough, tried to obtain a license from Amgen, as required under § 24 of the German Patent Act. Further, Sanofi had only offered a very low royalty rate in their belated letter to Sanofi.

Wisely, Amgen did not completely reject the request, but replied (wisely because, otherwise the BGH may have decided differently), yet Sanofi did not react on Amgen's reply, but simply waited for the BPatG's decision. A further letter from Sanofi sent during the appeal proceedings was not considered a serious effort to reach a mutual agreement.

Like the BPatG, the BGH also denied a public interest in the demanded compulsory license.

The main reason for this was the lack of credibility that Praluent offers any patient benefit over Repatha, in terms of mortality. Both drugs were shown to reduce the risk of a major cardiovascular event by about 15%. Since this significant pharmacological effect is achieved by both antibodies, it alone could not justify a public interest in a compulsory license.

Sanofi's product still fell under the scope of these claims. Hence, all of a sudden, epitope based claims were back from the oxygen tent.

Sanofi, in response, filed a request for Judgement as a matter of law (JMOL) – meaning, they wanted a judge to overturn the Jury decision.

JMOL can be admissible if the court finds that a reasonable jury would not have legally sufficient evidentiary basis to find for a party on an issue – a requirement which, regarding a matter as complicated as the patentability of epitope based antibody claims – seems likely fulfilled.

DC Delaware Judge Andrews accepted the case an reexamined the Jury´s decision for written description and enablement – which, as we all know, are separate patentability requirements under US law.

In his opinion, which issued August 28, 2019, Judge Andrews declared the patents invalid – hence, back into the emergency room. With regard to written description, he confirmed the Jury decision, basically on the finding that Amgen's patents would pass the "representative species test", because a) the use of AA sequences as a measure to determine whether there would be sufficient species would not be appropriate, b) still, there would be sufficient AA sequence similarity between Amgens's and Sanofi's Antibody, because Amgen would have disclosed 8 different families of blocking antibodies (while, in the AbbVie vs Janssen decision (759 F.3d 1285 (Fed. Cir. 2014) all antibodies AbbVie had disclosed in their patent were derived from a clone called Joe-9), and c) Amgen had also shown that the different antibodies discloses would all bind to different residues of PSCK9, though and the "sweet spot" of the target , i.e., the epitope referred to in the claims by AA residue reference. Hence, though likely to be appealed, this decision provides some drafting guidance for future applications, so as to meet the written description requirement in epitope based claims.

With regard to enablement, Judge Andrews first emphasized that, in order to meet this requirement, the specification must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.

In this regard, Sanofi referred, *inter alia*, to the language of claim 19 of Amgen's 8,829,165 patent ("antibody which binds to at least two of the residues R_1 – R_{13}"), and argued that it would be impossible to make an antibody that binds to only two AA residues without touching any other of the thirteen residues – and argument which, no surprise, did not convince Judge Andrews.

However, the Judge found that, in view of the facts that (i) the number of antibodies falling within the claim scope is in the millions, that (ii) substitution of amino acids in a sequence may have unpredictable effects on antibody function, and (iii) even despite the routine techniques available to identify antibodies within the claim scope, it would appear that a person of ordinary skill in the art would still be required to do essentially the same amount of work as the inventors of the patents-in-suit.

Judge Andrews herein referred to the same Court's decision MorphoSys vs Janssen (358 F. Supp 3d 354; D Del 2019), that issued earlier this year, on January 25. (in which case the parties settled, so an appeal was not filed).

In fact, Judge Andrews explained, the specification would not provide guidance on how to predict the effect of the sequence on the function of the antibody. The "roadmap" disclosed by the patents would almost be exactly the same as the patentee's initial research process to discover the twenty-six disclosed antibodies. As a consequence, he

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Although according to the results of a clinical study, fewer patients in Praluent group had suffered cardiac arrhythmia or died of cardiovascular disease than in the control group, these results were deemed statistically insignificant.

Also, Praluent had no further indication beyond the indications Repatha is approved for

Finally, the BGH did even not consider the possibility of dosing Praluent lower than Repatha sufficient to justify public interest in a compulsory license.

Note that this decision only referred to Sanofi's request for a preliminary order to award a compulsory license.

However, the final determination of the merits of the case is still pending.

declared the patents invalid for lack of enablement – and, as a consequence, also permanently vacated the injunction.

The underlying arguments are remarkable, as Judge Andrews ignores the idea that the key achievement on which the patents would settle could not be the actual antibodies, but the identification and characterization of a functional epitope, binding of which has the desired effect (while blocking other stretches of the target would not).

Ii seems likely that Amgen will appeal this decision, and we are eager to see what the Federal Circuit does with it, in particular because the latter has, recently, mostly dealt with written description father than enablement of antibody patents.

In decision Chiron vs Genentech (363 F.3d 1247, 1254-1256 (Fed. Cir. 2004), the CFAC found the asserted claims invalid because the disclosure failed to provide a specific and useful teaching of all antibodies within the scope of the claim – however, this decision dates from 2004.

Because the decision Judge Andrews relies on has not made it into appeal, there is a chance that the Federal Circuit will create clarity here.

EURIPTA® EEIG is getting personal... Today: Tim van Cauteren – IP Lodge

Tim Van Cauteren graduated in Engineering Physics from Ghent University (UGent, 2000), with a focus on solid-state physics and electronics, and visiting the Technical University of Denmark (DTU, 1999-2000) in his final year as an Erasmus student.

Between 2000 and 2010, he conducted fundamental research in computational physics, mainly focused on modelling of phenomena at the intersection of nuclear and particle physics. He obtained his Ph.D. in 2005 at UGent, in collaboration with the University of Bonn, Germany. Afterwards, he continued research as a postdoctoral fellow (BOF, FWO) at UGent, the University of Antwerp, KU Leuven and the Universidad Complutense de Madrid, Spain. He (co-)authored more than 25 articles in international journals.

In 2011, Tim Van Cauteren started working, first as a patent adviser and from 2014 onwards as a qualified patent attorney, at Brantsandpatents until 2018. He has experience in drafting and prosecuting patent applications, oppositions at the European Patent Office (EPO), and patent-related due diligence, legal and strategic advice. Tim joined IPLodge in 2019.

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