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The Rhineland Biopatent Gazette

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Duesseldorf/Munich, **03 November 2016** 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, MH associate Dr. Christoph Volpers reports about Updated ANDA rules for small molecule generics, and Dr. Ulrich Storz discusses a recent win for Kyle Bass's IPR strategy.

First IPR awarded to Coalition for Affordable Drugs

Evil mission accomplished: Hedge Fund invalidated patent protecting Shire's Gattex - shares dropped

In April 2015, an organization led by fedge fund Manager Kyle Bass, called „Coalition for Affordable Drugs" filed two Inter partes request (IPR) petitions against a patent assigned to NPS Allelix, US 7,056,886. The patent protects Gattex® (teduglutide [rDNA origin]) which is a 33 AA glucagon-like peptide-2 analog that is used for the treatment of short bowel syndrome.

On October 24, 2016, the Patent Trial and Appeal Board (PTAB) announced 61 of the 75 claims to be invalid as obvious.

Gattex has been developed by NPS Pharmaceuticals, Inc., which is a subsidiary of Shire US Inc.

Claim 1 of the patent reads as follows:

1. A glucagon-like peptide 2 (GLP-2) formulation comprising:

(a) a medically useful amount of a naturally occurring GLP-2 or an analog thereof;
(b) a phosphate buffer in an amount sufficient to adjust the pH of the formulation to a physiologically tolerable level;
(c) L-histidine; and
(d) a bulking agent selected from the group consisting of mannitol and sucrose.

The patent was originally set to expire Sep 18, 2022.

Bass's business model is to identify key patents that protect valuable drugs, file an IPR petition against that drug and, before that, place a bet on falling stock prices.

As of June 2016, Bass had filed 35 such petitions. In some cases the mere fact of the filing alone led to drop of stock prices, as, in the early years, IPRs had a very high success rate (for which reason the former CAFC Chief Judge Rader once called the

Updated ANDA rules for generics

US FDA issued "Final Rule" on October 6, 2016

While the US biosimilar pathway is currently undergoing a period of fierce "trial and error" litigations to gradually put Obama's Biologics Price Competition & Innovation Act from 2010 into practice and provide some more clarity on how to construe major provisions, the regulatory pathway and related patent requirements for small chemical generics has recently received an update when the US FDA issued the "Final Rule" on abbreviated new drug applications (ANDA) and 505(b)(2) applications.

The "Final Rule" (FR) is re-vising regulations governing the requirements for sub-mission and approval of abbreviated new drug applications (ANDAs) under Section 505(j) of the Federal Food, Drug and Cosmetic Act (FDCA) – relating to classical generics, – and of applications under Section 505(b)(2) – relating to, e.g., changes to a previously approved drug product. The FR is intended to implement portions of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) from 2003; it is formalizing some FDA policies developed in recent years and incorporating comments and feedback from stakeholders since February 2015 when a first draft ("Proposed Rule") was made public.

Originator companies filing a new drug application (NDA) need to provide information on patents related to drug product, drug substance or methods of using the drug to the FDA for listing in the

+ from our firm +

MH associate Dr. Christoph Volpers to organize Euro Biosimilars 2017 Congress in Munich

Dr. Christoph Volpers will be an invited speaker and has been elected as a member of the Organizing Committee for the Euro Biosimilars 2017 Congress to be held in Munich, Germany, on May 15-17, 2017. See the conference website here.

Article on Humira patent strategies published

MH partner Dr. Ulrich Storz has just published an article on Humira patent issues. The article discusses the patent strategy underlying the world's best selling drug, AbbVie's Humira. It is the first part of a trilogy that discusses IP issues related to anti-Tumor Necrosis factor α (TNFα) biologics. See the pubmed entry here.

Feedback please !

What do you think about this newsletter? Let us have your comments here.

respective Board the „patent death squad“)

Out of the 35 IPRs, only 57 % were instituted, i.e., admitted for trial. Among the non-instituted ones was IPR2015-01792 against Roche's US patent 8,063,182 B1, which has a lifetime of > 28 years and protects the anti TNFα biologic Enbrel ® (see this Gazette, Issue 2/2016).

The high non-institution rate has sometimes been explained by the poor quality of Bass's IPR requests.

The present request against Gattex seems to be the first one which eventually led to the revocation of the attacked patent

There are yet further patents listed for Gattex in Shire's SEC filing of February 2016, namely US 5,789,379, which has already expired, and US 7,847,061 (expiry date: Nov 1, 2025), US 9,060,992 (expiry date: November 1, 2025) and EP 0906338 (expiry date: April 10, 2022)

Claim 1 of US 7,847,061 reads as follows:

> 1. A method for enhancing intestinal absorption in a patient with short bowel syndrome presenting with colon in continuity with remnant small intestine, comprising the steps of selecting for treatment a short bowel syndrome patient presenting with colon in continuity with remnant small intestine, and treating said patient with a GLP-2 receptor agonist using a dosing regimen effective to enhance intestinal absorption by said patient, wherein said GLP-2 receptor agonist is selected from the group consisting of a GLP-2 peptide, a GLP-2 analog, a derivatized GLP-2 peptide or a derivatized GLP-2 analog.

Hence, both patents recite not only the modified 33 AA glucagon-like peptide-2 analog, but also naturally occurring GLP-2 peptides.

The decision can be appeal to the CAFC. It is yet arguable whether the rationale that led to the revocation of US 7,056,886 does necessarily translate also on US 7,847,061, or to any other of the 34 (!) continuation applications derived therefrom (32 of which only in May 2016).

Nonetheless, immediately after the outcome of the IPR was announced, Shires shares dropped significantly, as can be seen in the following chart:

Hedge fund activities like the one described are, in our view, one reason why the Pharma Industry seems to have developed a sceptic view on the central invalidation procedure that will be available under the still-yet-to-come Unitary Patent.

"Orange Book". The FR now codifies that the NDA holder must identify method-of-use patent information on a *claim-by-claim* basis in order to allow the ANDA applicant to more precisely determine whether a listed patent claims a use for which the generics applicant is seeking approval.

Based on the more precise definition of the use or medical indication the patent relates to, the ANDA applicant can then decide whether to file a so-called paragraph IV certification setting forth why the patent is invalid or not infringed, or to carve-out a protected use from the proposed label. What the FDA had in mind here was to avoid that an overbroad "use code" or assumed patent scope could prevent the authority from (tentatively) approving a generics application on the basis of a patent that in fact does not really cover the respective indication. The FR thus provides that "if the scope of the method-of-use claim… does not cover an indication… in its entirety, the NDA holder's use code must describe only the specific approved method of use claimed by the patent…"

In the FR, which will take effect on December 5, 2016, the FDA takes the position that reissued patents have to be considered as distinct and separate from the original patent in the context of evaluating eligibility for 180-day exclusivity, which is only available to the "first-to-file" ANDA containing a paragraph IV certification, and in the context of the 30-months-stay of FDA's ANDA approval, which is triggered if the NDA holder sues immediately after he has been notified by the applicant.

The point in time, when the generics company is allowed to provide notice of a para-graph IV certification to the NDA holder, also has been established now in the FR. The notice *may not be* provided to the NDA holder before the first working day after the day the patent has been published in the "Orange Book".

This provision is intended to prevent the ANDA applicant from sending "serial submissions" during the time between patent grant and Orange Book listing, just to secure the ANDA first filer status. In turn, the paragraph IV certification notice *must* be sent not later than 20 days after the date of postmark on the official paragraph IV acknowledgement letter.

It might seem consoling to IP and regulatory experts in the biosimilar arena to realize that even with the Hatch-Waxman Act – which entered

Archive

To obtain a neat overview of the quickly changing world of Biopatents, find prior issues of the Rhineland Biopatent Gazette here.

Being able to invalidate an important patent for a huge market in one strike, and over it's entire lifetime, is a considerable risk for asset owners, and like no other industry is as dependent on patents as the Pharma industry.

One strategy to cope with this risk is to increase the number of targets, e.g., as Shire did, by filing multiple divisional applications.

into force more than a forth of a century before the US biosimilars legislation – the process of amending and optimizing is continuing.

So how could we expect to already have the full picture on how the next wave's biosimilars are supposed to be regulated in the US?

EURIPTA® EEIG is getting personal... Today: Michaël A. T. Beck – IP Lodge

With master's degrees in both law and engineering, Michaël focuses on topics at the intersection of those fields, i.e. the "technolegal" field: intellectual property, turning innovation into business, and technology law.

Between 2000 and 2007, he was active as a research engineer at Alcatel R&I and Alcatel-Lucent Bell Labs in Antwerp. Through various projects, he was able to thoroughly familiarize himself with different technological aspects of data communications, while also representing his employer in various standardization bodies. He further gained experience in managing research projects.

From January 2008 until May 2009, Michaël was part of the intellectual property department of Vasco Data Security in Wemmel, where he participated in patent drafting, prosecution, and oppositions, and managed a global trademark portfolio.

Michaël started working as a patent attorney in 2009, when he joined Arnold+Siedsma. In 2013, he joined forces with Hans Bracquené to build up IPLodge, where he now assists clients in finding the best way to legally protect their creations, and acts on their behalf in proceedings before Belgian, Dutch, and European patent issuing institutions, in synergy with the talents of the other team members. His technical areas of interest include physics, electronics, and ICT.

Michaël has co-authored a book and published several articles on patent law, teaches courses to prospective patent attorneys, and is active as a part-time academic researcher at the Law faculty of the University of Antwerp. Michaël is qualified as a European, Dutch, and Belgian patent attorney. As a fully qualified jurist, he is also entitled to represent clients before the future Unified Patent Court. He is also a registered professional representative before OHIM, the European trademark and design and office. Michaël's primary professional language is English, next to his native language Dutch. French and German are his secondary professional languages, and he has basic notions of Icelandic and Danish.

MICHALSKI · HÜTTERMANN & PARTNER

Imprint: Michalski · Hüttermann & Partner Patent Attorneys, c/o: Dr. Ulrich Storz - email: st@mhpatent.de

Hafenspitze - Speditionstrasse 21 - 40221 Düsseldorf - Tel.: +49 (0)211 159 249 0 - Fax: +49 (0)211 159 249 20
Nymphenburger Strasse 4 - 80335 München - Tel.: +49 (0)89 208 027 274 - Fax: +49 (0)89 208 027 275

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