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Federal Circuit Speaks on Patent Eligibility of Method-of-Treatment Claims: Key Takeaways from the Vanda v. West-Ward *Decision*

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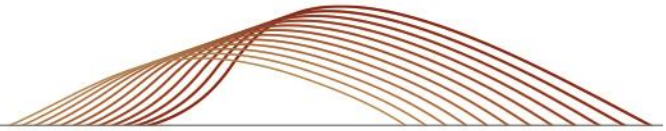
On April 13, 2018, the Federal Circuit held that a Hatch-Waxman plaintiff's patent claims concerning methods of treating schizophrenia were not directed to a patent-ineligible concept under step one of the Supreme Court's *Mayo* test,[1] and thus eligible subject matter under § 101 of the Patent Act. *Vanda Pharmaceuticals Inc. v. West-Ward Pharmaceuticals International Limited*, Nos. 2016-2707, 2016-2708 (Fed. Cir. Apr. 13, 2018). The majority opinion, written by Judge Lourie and joined by Judge Hughes, is the first Federal Circuit opinion to directly speak to the patent eligibility of method-of-treatment claims under the *Mayo* two-step framework, and builds on the Court's decision in *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042 (Fed. Cir. 2016) in embracing the importance of step one of the *Mayo* test. While not a unanimous decision—Chief Judge Prost wrote in dissent that she would have found the patent claims directed to a law of nature—the *Vanda* decision provides welcome guidance for pharmaceutical method-of-treatment claims in a post-*Mayo* era. Among other things, the Federal Circuit also reaffirmed that induced infringement in Hatch-Waxman litigations does not require proof that prior use of the innovator product satisfies the elements of the asserted patent claims.

I. Background of the Decision

Vanda Pharmaceuticals Inc. is a biopharmaceutical company that markets Fanapt®, an antipsychotic drug approved by the FDA for the treatment of schizophrenia in adults. *Vanda* Majority Opinion, at 4. The active ingredient in Fanapt® is a chemical compound known as iloperidone. *Id.* One potential side effect of iloperidone is prolongation between the Q and T waves of a patient's heart rhythm (QTc prolongation), which can cause serious cardiac problems. *Id.* at 3. During the development of Fanapt®, it was discovered that a mutation of the liver enzyme CYP2D6 caused poor metabolism of iloperidone and was associated with an increased risk of QTc prolongation. *Id.* This discovery resulted in U.S. Patent No. 8,586,610 ("the '610 patent"), which claims methods of treating schizophrenia comprised of identifying patients with a CYP2D6 mutation and then giving them a lower dose of iloperidone (12 mg versus 24 mg), thereby mitigating potential QTc prolongation problems. *Id.* Claim 1 of the '610 patent recites:

> A method for treating a patient with iloperidone, wherein the patient is suffering from schizophrenia, the method comprising the steps of:



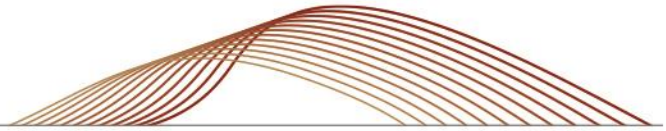
> determining whether the patient is a CYP2D6 poor metabolizer by [conducting a biological assay]; and
>
> if the patient has a CYP2D6 poor metabolizer genotype, then internally administering iloperidone to the patient in an amount of 12 mg/day or less, and
>
> if the patient does not have a CYP2D6 poor metabolizer genotype, then internally administering iloperidone to the patient in an amount that is greater than 12 mg/day, up to 24 mg/day,
>
> wherein a risk of QTc prolongation for a patient having a CYP2D6 poor metabolizer genotype is lower following the internal administration of 12 mg/day or less than it would be if the iloperidone were administered in an amount of greater than 12mg/day, up to 24 mg/day.

In 2013, the West-Ward defendants' predecessor-in-interest filed an Abbreviated New Drug Application ("ANDA") seeking to market generic versions of Fanapt®, precipitating lawsuits for infringement of U.S. Reissue Patent No. 39,198 (not at issue on appeal), and then subsequently the '610 patent following its issuance. After a five-day bench trial, the District Court for the District of Delaware found that the '610 patent claims were directed to a law of nature—i.e., the relationship between iloperidone, CYP2D6 metabolism, and QTc prolongation—but were nonetheless patent-eligible because defendants had failed to show the dosing adjustment step was routine or conventional. *Vanda Pharm., Inc. v. Roxane Lab., Inc.*, 203 F. Supp. 3d 412, 427-30 (D. Del. 2016) (Sleet, J.). The district court also found, among other things, that the proposed ANDA products would induce infringement of the asserted claims of the '610 patent. *Id.* at 433-34. The district court's findings were appealed to the Federal Circuit on September 26, 2016 and argued on December 5, 2017.

II. The Court's Holding on Patent Eligibility

Under the Supreme Court's two-step framework set forth in *Mayo*, the § 101 patent eligibility inquiry asks: (1) whether the claims at issue are directed to a patent-ineligible concept, i.e., a law of nature, abstract idea, or natural phenomenon; and if so, (2) whether additional elements transform the nature of the claims into a patent-eligible concept, i.e., something more than routine or conventional steps. In *Vanda*, the West-Ward defendants argued the claimed methods were indistinguishable from the claims found ineligible in *Mayo*, which were related to methods of optimizing the dosage of thiopurine drugs by administering the compound to a patient, measuring the level of certain metabolites in the blood after administration, and adjusting the dosage in light of metabolite levels. *Vanda* Majority Opinion, at 28-29. In a split decision, the Federal Circuit held the patentee's claims were patent-eligible.

Specifically, the majority found the claims at issue were not directed to a patent-ineligible concept at step one of the *Mayo* framework. While acknowledging that the inventors of the '610 patent had identified a law of nature, the Court found that the claims were directed to an application of that relationship, i.e., "to a method of using iloperidone to treat schizophrenia," rather than the relationship itself. *Id.* at 30. The majority distinguished *Mayo* on the basis that the claims there were "not directed to the application of a drug to treat a particular disease." *Id.* at 29. The majority further distinguished *Mayo* with respect to preemption, stating that the *Mayo* claims "did not go beyond recognizing (i.e., 'indicates') a need to increase or decrease a dose" and were not treatment claims, whereas the claims at issue "do not broadly 'tie up the doctor's subsequent treatment decision.'" *Id.* at 30-31. The Court also found support from its decision in *CellzDirect* that "the natural ability of



the subject matter to undergo the process does not make the claim 'directed to' that natural ability." *Id.* at 31.

The majority concluded that, "[a]t bottom, the claims here are directed to a specific method of treatment for specific patients using a specific compound at specific doses to achieve a specific outcome. . . . They recite more than the natural relationship between CYP2D6 metabolizer genotype and the risk of QTc prolongation. Instead, they recite a method of treating patients based on this relationship that makes iloperidone safer. . . . Accordingly, the claims are patent eligible." *Id*. at 32.

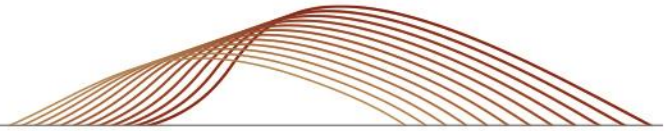
In dissent, Chief Judge Prost disagreed with the majority's view that the claims at issue could be meaningfully distinguished from *Mayo* for two reasons. First, she found the *Vanda* claim's recitation of specific dosages to be unavailing, because in her view the claims in *Mayo* likewise had recited specific dosages, and further she viewed the assessment of the significance of such dosages as a consideration at step two of the *Mayo* framework, not step one. *Vanda* Dissent, at 4-5, 6. Second, in her view, that the claims at issue were "for treating a patient with iloperidone" simply identified the relevant audience, akin to the "administering" step in the *Mayo* claim. *Id.* at 5-6. The Chief Judge also found *CellzDirect* distinguishable because there the claims had resulted in a new and useful method of preserving hepatocyte cells, whereas "[h]ere, the end result of the claimed process is no more than the conclusion of a natural law." *Id.* at 7-8.

III. Key Takeaways on Patent Eligibility

In holding the claims at issue were not directed to a patent-ineligible concept at step one of the *Mayo* test, the *Vanda* decision provides welcome clarification as to patent eligibility of method-of-treatment claims—the first time the Federal Circuit has directly addressed this issue. Specifically, in the majority's view, a claim that recites a law of nature, but which is directed to a new method of treating a specific disease or patient population based on that law of nature, constitutes an application of that law of nature, thereby placing the claim within the scope of patentable subject matter. Given the similarity between the claims at issue in *Vanda* and those in *Mayo* in terms of the "determining" and dose adjustment steps, the majority's holding appears to reflect a view that method-of-treatment claims, when appropriately structured, could in general be patent-eligible. For patent practitioners working in the pharmaceutical and biopharmaceutical arts, *Vanda* will serve as an important precedent alongside *CellzDirect* for supporting patent eligibility, in counterbalance to the weight of case law finding ineligibility such as *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (Fed. Cir. 2015), *Genetic Techs. Ltd v. Merial LLC*, 818 F.3d 1369 (Fed. Cir. 2016), *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 859 F.3d 1352 (Fed. Cir. 2017), and of course *Mayo* itself.

The *Vanda* decision further builds on *CellzDirect* by consolidating the importance, at step one of the *Mayo* test, of not merely identifying a patent-ineligible concept, but determining "whether that patent-ineligible concept is what the claim is 'directed to.'" *CellzDirect*, 827 F.3d at 1050. Given the general view among the Federal Circuit Judges that courts are bound by the Supreme Court's strong language with respect to step two of the *Mayo* test (*see, e.g.*, the Federal Circuit's denial for rehearing *en banc* in the *Ariosa* case), practitioners can expect that crucial eligibility disputes will increasingly be played out at step one. Accordingly, we can expect future cases to test the limits of step one, and indeed Chief Judge Prost foreshadows this in her dissent in *Vanda*. *See Vanda* Dissent, at 1-2 (opining that the majority "conflates the inquiry at step one with the search for an inventive concept at step two").

The decision further confirms that preemption is likely to continue to play a role in the patent eligibility analysis, albeit a supporting one. Here, for example, the majority noted, "to the extent that



preemption is a concern," that "the claims do not broadly 'tie up the doctor's subsequent treatment decision.'" *Vanda* Majority Opinion, at 30-31. Practitioners engaged in both the drafting and litigation of pharmaceutical patent claims should therefore consider the breadth of claim language from the perspective of possible preemption arguments. Practitioners should also note, however, that had the result in *Vanda* been different, the Court would have likely relied on its precedent to support that "absence of complete preemption does not demonstrate patent eligibility." *Ariosa*, 788 F.3d at 1379.

While the majority's opinion supports that method-of-treatment claims constitute applications of underlying natural laws, Chief Judge Prost's dissent calls into question whether that would be the case in all circumstances. The *Vanda* decision does not preclude the possibility that on different facts a natural law is found to be so closely tied to a treatment claim that a court finds the claim essentially directed to the ineligible concept itself. Indeed, Chief Judge Prost would have found the *Vanda* claims directed to a natural law despite their being method-of-treatment claims. *Vanda* Dissent, at 5 ("This is no more than an optimization of an existing treatment of schizophrenia, just as the claims in *Mayo* concerned 'optimizing therapeutic efficacy' of thiopurine drugs.").

Despite the clarification afforded by the *Vanda* decision, patent practitioners should be aware that this is unlikely to be the final word on patent eligibility with respect to method-of-treatment claims, especially given Chief Judge Prost's criticism of the majority's opinion as being at odds with *Mayo*.

IV. The Court's Holding on Induced Infringement

The majority in *Vanda* also affirmed the district court's finding of induced infringement, which is a topic on which we have written previously. The West-Ward defendants argued on appeal that there could be no induced infringement because the language of the proposed labeling cannot constitute direct infringement, and further, that the district court had erred in relying on the testimony of a doctor who had never administered an infringing dose to a patient with a CYP2D6 poor metabolizer genotype. *Vanda* Majority Opinion, at 19. The Federal Circuit flatly rejected this argument, reasoning "that a patentee does not need to prove an actual past instance of direct infringement by a physician to establish infringement under 35 U.S.C. § 271(e)(2)(A)." *Id.* at 20. The Court's reasoning confirms that, in the context of Hatch-Waxman litigation, the induced infringement inquiry may be predicated on a direct infringement showing that the proposed ANDA product would infringe the patent if marketed by relying, for example, on the proposed generic labeling. *Id.* at 21.

The West-Ward defendants also argued that specific intent to infringe the '610 patent could not be shown. But the Federal Circuit found no error in the district court's finding that the proposed labeling recommended performance of all steps of the claimed methods, namely the adjusted dosing step in light of a genotype assay used to identify poor metabolizers of the CYP2D6 enzyme. *Id.* at 22-24. Further, the Court reaffirmed its holding in *Sanofi v. Watson Labs. Inc.*, 875 F.3d 636 (Fed. Cir. 2017) that the presence of alleged substantial noninfringing uses does not preclude induced infringement, reiterating that "the proposed ANDA label itself recommends infringing acts." *Vanda* Majority Opinion, at 25-26.

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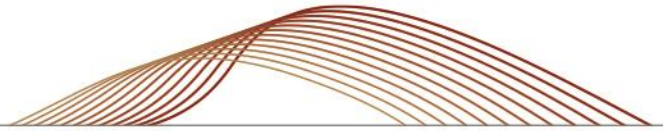

As the Federal Circuit's first opinion directly addressing the patent eligibility of method-of-treatment claims, the *Vanda* decision is an important development in life sciences patent law and § 101 jurisprudence generally. The majority's finding that the treatment claims at issue were not directed to an ineligible concept reinforces the growing importance of step one of the *Mayo* test. Moreover, the decision affirms established principles regarding proof of induced infringement in the context of Hatch-Waxman litigation. Patent practitioners would be well-advised to track the ongoing impact of *Vanda*.

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If you have any questions concerning these developing issues, please do not hesitate to contact the following Paul Hastings New York lawyer:

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[1] *See Mayo Collaborative Serv. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012).