IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

DSM IP ASSETS, B.V. & DSM BIO-BASED PRODUCTS & SERVICES, B.V.,

Plaintiffs and Counter-Defendants

OPINION & ORDER

v.

16-cv-497-wmc

LALLEMAND SPECIALTIES, INC. & MASCOMA LLC,

Defendants and Counterclaimants.

Lallemand moves the court to reconsider its summary judgment decision on indefiniteness and the related underlying facts. (Dkt. #204.) More specifically, Lallemand contends that "manifest errors of fact lead to an erroneous legal conclusion on Defendants' indefiniteness defense," which "will lead to incorrect evidentiary rulings before and during trial, resulting in manifest injustice and reversible error." (*Id.* at 5.) In reviewing the briefing on this motion, the court realized the parties are to some extent talking past each other with respect to the role of the Blomberg assay in detecting GPD activity *in vitro* and proof of GPD activity *in vivo* through reduced glycerol production, which may be the product of a genuine misunderstanding of the court's ruling or a need for greater clarification by the court. Understanding that much of the parties' argument may be written for the court of appeals, and therefore not really inviting clarification by this court, I will attempt to provide it in this opinion, as I did during oral argument on the motion at the final pretrial conference. Nevertheless, for the reasons already stated at summary judgment and during the final pretrial conference, as well as those that follow, Lallemand's motion for reconsideration will be denied.

OPINION

Deciding "a motion for reconsideration is left to the discretion of the district court." *Caisse Nationale de credit Agricole v. CBI Inds., Inc.*, 90 F.3d 1264, 1270 (7th Cir. 1996) (citing *Billups v. Methodist Hosp.*, 922 F.2d 1300, 1305 (7th Cir. 1991)). "Reconsideration is not an appropriate forum for rehashing previously rejected arguments or arguing matters that could have been heard during the pendency of the previous motion." *Id.* (citations omitted). Instead, "[m]otions for reconsideration serve a limited function: to correct manifest errors of law or fact or to present newly discovered evidence." *Id.* at 1269 (quoting *Keene Corp. v. Int'l Fidelity Ins. Co.*, 561 F. Supp. 656, 665 (N.D. Ill. 1982), *aff'd*, 736 F.2d 388 (7th Cir. 1984)). "A 'manifest error' is not demonstrated by the disappointment of the losing party. It is the 'wholesale disregard, misapplication, or failure to recognize controlling precedent.'" *Oto v. Metro. Life Ins. Co.*, 224 F.3d 601, 606 (7th Cir. 2000) (citation omitted).

Lallemand's motion to reconsider does not begin to reach this high bar. Indeed, the court recognized at summary judgment both: (1) the serious shortcomings of the Blomberg assay for measuring GPD2 and GPP activity; *and* (2) the patent's disclosure of comparative glycerol production as a broader, less-flawed measurement. Most of Lallemand's arguments as to either finding simply "rehash" its arguments at summary judgment, and except for the clarifications below, the court finds no merits in new arguments raised in its motion to reconsider.

I. Blomberg Assay

Lallemand's principal argument is that because the '998 patent expressly discloses

the Blomberg assay, the court somehow divorced the Blomberg assay from "the claimed reduction in GPD activity" based on its observation that "the assay does not measure 'changes of rates of enzymatic activity over time.'" (*Id.* at 8.) Despite the court expressly holding that "the claims do not require this measurement," Lallemand goes on to argue that the court's observation "fundamentally changes the scope of the patent by adding additional requirements regarding changing rates over time." (*Id.* at 8-9.)

Assuming that it does not intend to create a strawman, Lallemand would appear to be the one that fundamentally misunderstands the court's holding on summary judgment with respect to the Blomberg assay. First, as emphasized at the final pretrial conference, the court did *not* change its construction of the terms, much less the claims of the patent, which Lallemand itself concedes as quoted above. Second, the court did *not* find that use of the Blomberg assay plays no role in determining infringement. Instead, the court found that use of the Blomberg assay has its limits, which was recognized both in the '998 patent and by all three scientific experts during the colloquy, including Lallemand's expert Dr. Winge.

Nevertheless, Lallemand continues to argue that the Blomberg assay is the *only* means taught in the patent for determining whether its products have infringed and, therefore, is either evidence that it does not infringe under Dr. Winge's modified use of the Blomberg assay *or* the claims of the patent are necessarily indefinite. Since the court already rejected each of these premises on summary judgment, and Lallemand offers no new basis to reconsider, the court will reject them again.

Next, Lallemand suggests that the court "seemingly has a fundamental scientific

misunderstanding as to what the patent discloses regarding the Blomberg assay and activity in the form of rates" because that assay "precisely" measures activity as defined by the court.[1] (*Id.* at 9.) If Lallemand actually believes that the court ruled otherwise, then there is indeed a misunderstanding. In particular, Table 3 of the patent, as Lallemand notes, compares GPD activity in micromoles per minute, as measured by the inventors using the Blomberg assay, showing that the modified strain IMZ132 had reduced activity compared to wild-type strain IME076. (*Id.* at 9-10.) Setting aside the court's criticism as to the limitations of the Blomberg assay, Lallemand argues that Table 3 of the assay "shows the rates exactly as required by claim 1." (*Id.* at 11.) The court has no quarrel with any of this, except that Lallemand goes on to contend that it was "manifest error" for the court to conclude that the Blomberg assay "'was not used to determine the rate of GPD enzymatic activity in the patent-in-suit,'" as it is disclosed in the patent and the parties agree that the Blomberg assay measures some GPD activity. (*Id.* (quoting dkt. #167 at 41).)

Again, Lallemand misstates the court's holding. Lallemand is free to rely on measurements of *in vitro* activity using the Blomberg assay to show no "reduction in the rate of the reaction catalyzed by NADH-dependent GPD," provided it acknowledges the limitations of that assay. At the same time, the court will not preclude DSM from showing the opposite by use of the Blomberg assay, the Abbot assay or *in vivo* measurements also taught in the '988 patent.

[1] As Lallemand notes and the court explained, "'activity' is a noun that refers here to a metabolic process, whose 'rate' would normally be understood by one skilled in the art to be measured by the change in moles of a substrate converted or of its converted product per unit of time." (Dkt. #167 at 20.)

Lallemand then argues that because the parties agree that the Blomberg assay measures GPD activity, the court should not come to a contrary conclusion. (*Id.* at 13-14.) The court agrees, and to the extent Lallemand reads the summary judgment decision to hold otherwise, it is again mistaken. Where the court has admittedly helped to sew confusion was in suggesting that Blomberg assays cannot be used to measure reduction in GPD2 activity. Although this was essentially Drs. Alper's and Pfleger's opinion (and Dr. Winge effectively conceded as much by purporting to measure that activity using his own modified version of the Blomberg assay not yet scientifically proven effective, much less peer reviewed), Lallemand cites to Dr. Winge's reliance on the Geertman article as an example of the Blomberg assay's use to measure GPD2 activity. (*Id.* at 14-15.) While Geertman and articles lifted by Lallemand from Professor Alper's report, appear to use the Blomberg assay for *in vitro* measurements in a manner similar to that taught in the '998 patent[2] -- at full saturation and with both GPD1 & 2 eliminated or overexpressed -- the court agrees that the parties and their experts may rely upon these arguably conflicting scientific studies before the jury.

Lallemand also contends that Professor Winge's research identified conditions under which assays could measure GPD2 activity so that the court's conclusion that "there is no recognized authority or peer-reviewed study that supports [Winge's] creative change

[2] Lallemand cites to four other articles that Alper referenced in his colloquy presentation: Albertyn, Bjorkqvist, Nissen and Ansel (*see* dkt. #159-1 at 14): Albertyn does not use the Blomberg assay, but rather a similar assay and does not advise that GPD2 cannot be measured; Bjorkqvist assayed GPD2 with a modified version of the Blomberg assay and advises that by adjusting the buffer to a pH of 6.5 and adding 10mM $MgCl_2$, GPD2 activity could be found; Nissen reported on Bjorkqvist's modified Blomberg assay and did not independently analyze GPD activity assays; finally, Ansell used the Blomberg assay to examine GPD2 activity without problem (dkt. #204 at 16).

in the Blomberg assay" was contradicted by "clear record evidence." (*Id.* at 17.) Although skeptical for reasons explained already at summary judgment and during the discussions at the final pretrial conference, the court will allow a further proffer during the court's telephonic conference on Thursday, May 3rd. Ultimately, however, Winge's acknowledgement that there were no peer-reviewed articles or regression analyses supporting the efficacy of his modifications to the Blomberg assay would seem dispositive on this issue, even if "multiple peer-reviewed references specifically warn about magnesium effects on GPD2 and . . . Dr. Winge took those warnings into account." (*Id.* at 18.)[3]

Next, Lallemand challenges as unsupported the court's finding that glycerol synthesis was "the only recognized measure of GPD activity" in the patent, which the court agrees was not accurate since the Blomberg assay was recognized to detect GPD activity, or at least the absence of such activity when GPD1 & 2 expression was completely eliminated, although not GPP activity. Likewise, Lallemand argues that glycerol synthesis is not the only method for measuring GPD and GPP activity (or more specifically, that there is no support for this finding). Again, the court agrees, although it disagrees that such a finding makes GPD activity unmeasurable in "said cells" or that GPD activity

[3] Notwithstanding this ruling, Lallemand may argue in response to any willfulness claim that: (1) the patentees and Geertman, not just Lallemand, relied on the Blomberg assay to demonstrate a reduction in GPD activity; (2) the court mischaracterizes Lallemand's 2011 Blomberg testing because "no one has ever suggested" this testing was done "to show reduction in enzyme activity" and instead the testing was "an attempt to characterize the effects of genetic modifications to experimental yeast strains"; and (3) the results of testing have not recently changed and have shown overlapping error bars since 2011. (*Id.* at 19-20.)

cannot be measured by glycerol production. (*Id.* at 22-23.)[4]

II. Indefiniteness

Lallemand also contends that the court "must" reconsider its definiteness finding, arguing that "the critical notice function of patent claims will be gutted by a holding that . . . the scope of the claims is determined by a measurement method that is not disclosed in the patent or in any other scientific publication." (*Id.* at 25-26.)[5] Specifically, Lallemand contends that in considering a definiteness challenge a court cannot rely on a late-asserted measurement methodology to displace the patent-disclosed measurement and that the court's findings demonstrate that the claims here are more indefinite than those at issue in *Dow Chemical Company v. Nova Chemicals Corporation*, 803 F.3d 620 (Fed. Cir.

[4] Lallemand contends that "said cells" are unidentified because different yeast grow at different rates, but there is no guidance about normalizing the glycerol synthesis rate to the number of cells; that *in vivo* glycerol production does not measure GPD activity because it only measures the amount of glycerol secreted, which is particularly troubling for the Accused Products that are modified to import glycerol into the cells; and that one of ordinary skill would not know how to measure the slope of glycerol production curves, and therefore would not know how to compare them across yeast strains. (Dkt. #204 at 23-25.) For reasons previously addressed, the court disagrees, although it acknowledges to prove infringement of claim 1 of the '998 patent, the change in glycerol production would have to be proven by comparing batches that are essentially the same *except* for the expression of GPD or GPP in the transgenic yeast cells versus corresponding wild-type yeast cells.

[5] Lallemand also "respectfully asks the Court to reconsider its *ad hominin* statements regarding defendant[s'] arguments in support [of] using the Blomberg assay" citing to dkt. #167 at 42-43 (noting that the use of the Blomberg assay instead of glycerol production "is not credible, except perhaps by one searching for a way to prove the commercial viability of this practice or to prove non-infringement" and calling the defendants' argument about HPLC in the metabolite analysis and glycerol synthesis as not being described in the patent as a measure for GPD activity "mainly sophistry"). While the court remains skeptical of Lallemand's use of the Blomberg assay for reasons previously explained, neither party nor their experts may quote to the jury *any* of the language from the court's various opinions or statements at hearings unless authorized in advance.

2015). (*Id.* at 26-27, 29.)[6] In considering the slope of the glycerol production curve, Lallemand asserts that there is no guidance on when to measure, creating an "arbitrary choice" which is determinative on the question of infringement. (*Id.* at 28.) Lallemand contends this necessitates reconsideration on the question of indefiniteness, or at least cautions waiting to decide until after the infringement evidence is presented. (*Id.* at 29.)

Here, the court fundamentally disagrees. As DSM points out, the rate of *in vivo* glycerol production is the generally accepted method for measuring GPD activity, not only by scientists generally, but by all of the scientists at the colloquy, including Lallemand's. Moreover, measuring GPD activity based on glycerol synthesis is expressly disclosed in the patent, as shown in Figures 2A and 2B, that one of ordinary skill in the art would understand.[7] Indeed, glycerol production rates are routinely normalized to the number of fermentation-batch cells through use of optical density, which is also disclosed in Figures 2A and 2B, so that one of ordinary skill would know how to measure using comparative rates of glycerol production.[8] (Dkt. #223 at 8-10.) In the court's view, these disclosures

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[6] In comparing this case to *Dow*, Lallemand argues that Drs. Alper and Pfleger "invented a new measure to determine the rate of glycerol production," but that "Alper was strangely quiet . . . likely because he refers to the use of 'two point slope[s]' as 'borderline scientifically unethical . . . and [their] conclusions are disingenuous.'" (Dkt. #204 at 27 (quoting dkt. #146 ¶ 160).)

[7] As DSM further notes, in arguing that the art does not use glycerol production to measure GPD activities, Lallemand ignores that its own expert acknowledged that glycerol synthesis was an acceptable measure. Specifically, DSM notes that Winge proposed a flux analysis using ^{13}C tracking, which Professor Pfleger explained would basically measure glycerol production attributable to GPD and GPP activity. (Dkt. #223 at 7.)

[8] DSM also contends that Lallemand's comparison of the slopes for the Accused Products to the wild-type strains is scientifically unfounded and "unsupported attorney argument," but again that is what the '998 patent also discloses consistent with the accepted science for measuring GPD and GPP activity.

render Lallemand's contention that the court's summary judgment decision is contrary to *Dow Chemical* and patent policy meritless. Of course, Lallemand may argue that glycerol synthesis does not measure GPD activity appropriately because the Accused Products are modified to import glycerol as a novel noninfringement theory, but that does not render the '988 patent indefinite.

Having considered the parties' submissions, the court simply is not convinced that its decision on indefiniteness (or the underlying facts) was manifest error. First, all the experts agree that the Blomberg assay measures NADH as a proxy for GPD activity; they also agree the experiment referred to in column 20, lines 20 to 45 involved extracts of yeast cells that were genetically modified to express neither GPD1 nor GPD2. Second, all the experts agree that an activity assay would not be available to measure GPP activity. The court again notes that the patent provides no specific guidance on how to measure any reduction in GPP activity except for glycerol production as compared to corresponding wild-type yeast cells. Third, all the experts agree that glycerol production is a way to measure GPD and GPP activity, even if they disagree about its efficacy relative to other measurements.[9] Fourth, Professor Winge acknowledged that his modifications to the Blomberg buffer solution had not been subjected to either regression analysis or peer

[9] In fairness, as Lallemand points out in its reply, Professor Winge disagreed that glycerol production was even a close second to his proposed carbon tracking measurement, but this ignores Winge's concession that no one is actually doing this. Lallemand also complains that DSM has changed its tune since before claims construction in support of the court's summary judgment decision, and that DSM only raised the idea of using glycerol production to measure GPD activity at the expert colloquy, which will require Professor Alper to testify outside his reports. (Dkt. #226-1 at 4-6, 11.) On the contrary, Alper's report appears to rely on exactly this measure in finding infringement (dkt. #146 ¶¶ 68-70), as did Stephanopoulos (dkt. #47 ¶¶ 76-78). Nevertheless, the court will hear from both parties at Thursday's telephonic conference as to whether Lallemand's concern needs to be addressed in some way before trial.

review.

ORDER

IT IS ORDERED that:

1) Lallemand's motion for reconsideration (dkt. #204) is DENIED.

2) Lallemand's motion for leave to file reply brief (dkt. #226) is GRANTED.

Entered this 30th day of April, 2018.

BY THE COURT:

/s/

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WILLIAM M. CONLEY
District Judge