IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

GENZYME CORPORATION and AVENTIS INC., Plaintiffs, v. NOVARTIS GENE THERAPIES, INC. and NOVARTIS PHARMACEUTICALS CORPORATION, Defendants.	C.A. No. 21-1736-RGA [redacted] **REDACTED PUBLIC VERSION** **FILED: July 26, 2023**

DEFENDANTS' OPENING BRIEF IN SUPPORT OF THEIR MOTION FOR LEAVE TO AMEND THEIR ANSWER, DEFENSES, AND COUNTERCLAIMS

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Abbreviation	Description
’222 Provisional	Provisional Application No. 60/639,222
’542 Patent	U.S. Patent No. 9,051,542
’553 Application	Application No. 12/661,553
’997 Provisional	Provisional Application No. 60/575,997
AAV	adeno-associated virus
Ex. __	Refers to accompanying Exhibits to Defendants’ Opening Brief In Support of Their Motion for Leave to Amend Their Answer, Defenses, and Counterclaims (Exs. 1-23)
Exhibit __	Refers to Exhibits to Defendants’ Motion for Leave to Amend Their Answer, Defenses, and Counterclaims (Exhibits A & B)
Notebook 670	Avigen Laboratory Notebook No. 670
Novartis	Novartis Gene Therapies, Inc. and Novartis Pharmaceuticals Corporation
Plaintiffs	Genzyme Corporation and Aventis Inc.
PTO	United States Patent and Trademark Office

I. INTRODUCTION

Novartis seeks leave to amend its Answer, Defenses, and Counterclaims to add affirmative defenses and counterclaims that the claims of the ’542 patent are unenforceable for inequitable conduct and unclean hands. The amended pleading (Exhibit A) is based on information Plaintiffs produced one month ago, on June 12, 2023—just weeks before the June 30, 2023 close of fact discovery and days prior to the depositions of the named inventors. Novartis moved diligently thereafter to compile and analyze the facts under the governing law in order to confirm that its inequitable conduct allegations were well-founded and would satisfy the heightened pleading requirements of Fed. R. Civ. P. 9(b). Novartis did not delay in bringing this motion, and it would not prejudice Plaintiffs if granted, as all relevant information has been available to Plaintiffs. Novartis’s motion is consistent with substantial authority allowing amendment of the pleadings to assert inequitable conduct when appropriate in view of belated discovery.

The proposed amendment is not futile and is well grounded in the evidence and applicable law. It rests on multiple failures by a named inventor and two patent attorneys to disclose material information to the PTO accompanied by numerous statements and actions before the PTO that are expressly contradicted by that undisclosed information. The issued claims of the ’542 patent purport to cover a vast array of compositions for storage of purified, recombinant AAV particles “without significant aggregation.” Significantly, the principal misrepresentations and omissions are material to the patentability of these broad claims, including the issue (under 35 U.S.C. § 112) of whether the ’542 patent contains adequate disclosure to support their full scope. Specifically, information recently discovered by Novartis has now shown that the applicants cherry-picked experimental data to disclose to the PTO, while withholding other data establishing that the inventors did not possess, much less enable, the full scope of what they claimed. Moreover, the withheld information also shows that the few exemplary compositions disclosed in the ’542 patent

are not as useful for preventing aggregation as the applicants suggested to the PTO.

The evidence also shows that the same inventor and patent attorneys knew that complete disclosure of the underlying experimental work would be problematic for their pursuit of broad patent claims. As just one example, the claims of the ’542 patent broadly cover compositions with an ionic strength of “greater than 200 mM” to achieve the claimed purpose of preventing significant aggregation during storage. However, the earliest provisional application instead required ionic strengths “> 300 mM,” identifying that higher concentration of ions—300 mM, not 200 mM—as the critical threshold for preventing aggregation. This was consistent with [redacted][1] Yet when a subsequent provisional application was filed, the claims and disclosure of the specification were inexplicably ***broadened*** to include compositions with ionic strengths as low as 200 mM, and all mention [redacted] was ***deleted*** from the application. Exhibit A, Amended Counterclaims at ¶¶ 132, 200-01, 219. The [redacted], which refuted the applicants’ expansion of the claims (and disclosures) in the second provisional application as well as their later arguments to the PTO in support of patentability, was never disclosed.

As outlined below and further detailed in Novartis’s amended pleading, other information documenting the inventors’ work and discovered by Novartis on or after June 12, 2023 reveals additional material misrepresentations and omissions by the applicants that were never corrected. But for these misrepresentations and omissions, the ’542 patent would not have issued with such broad claims. The single most reasonable inference under the circumstances is that these actions were specifically intended to deceive the PTO.

[1] The earliest provisional application disclosed this 210 mM composition and referenced a study testing its ability to prevent aggregation during storage, however, the results were never disclosed.

II. OVERVIEW OF INEQUITABLE CONDUCT ALLEGATIONS

Inequitable conduct requires a finding of materiality and an intent to deceive. Materiality here cannot reasonably be disputed. The identified inventor and attorneys withheld experimental data that contradicts the breadth of the claims and refutes patentability arguments they made to the PTO, including the very argument which secured allowance of the '542 patent. That they acted with a specific intent to deceive the PTO is apparent from at least their deliberate removal from the specification of all references to a previously disclosed test composition that was otherwise encompassed by the broadened claims but did not produce the claimed effect. Other withheld data revealing additional misrepresentations and misleading disclosures regarding the very experiments alleged to show the utility of the purported invention confirms that the identified individuals were more concerned with securing issuance of broad patent claims than with upholding their respective duties of candor before the PTO. Their raft pattern of deceptive conduct, which Plaintiffs concealed from Novartis for nearly the full fact discovery period, supports a reasonable inference that their actions were intended to deceive the PTO. *See Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1326-29 (Fed. Cir. 2009). Novartis's inequitable conduct allegations are thus well-founded.[2]

1. The Issued '542 Patent. Plaintiffs' '542 patent is directed to compositions for the storage of purified, recombinant AAV vector particles purportedly allowing for storage "without significant aggregation." The patent describes vector particle aggregation as a "problem" during preparation and storage that can lead to "losses during vector purification" as well as "higher costs

[2] Novartis's allegations of unclean hands are based on the same pattern of deceptive conduct underlying its allegations of inequitable conduct. *See Sprint Commc'ns Co. L.P. v. Charter Commc'ns, Inc.*, No. 17-1734-RGA, 2021 WL 982726, at *11-12 (D. Del. Mar. 16, 2021) (denying summary judgment of no unclean hands where the defense rested on the same facts as a separate defense of inequitable conduct); *see also Finjan, Inc. v. Juniper Network, Inc.*, No. C 17-05659 WHA, 2018 WL 4181905, at *6 (N.D. Cal. Aug. 31, 2018) ("The defense of unclean hands is essentially a cousin to inequitable conduct that lowers the materiality threshold on a showing of 'egregious misconduct' like perjury or the suppression of evidence.") (citation omitted).

and capacity limitations" in pre-clinical and clinical contexts. Ex. 1 at 2:58-3:2. Relevant here, the '542 patent labels ionic strength as "an important parameter in AAV vector aggregation" and aims to provide "solutions for use in preparing and storing AAV vectors" that "achieve an ionic strength high enough to prevent aggregation." *Id.* at 3:11-19, 4:53-55. It further asserts that the "threshold ionic strength . . . required to prevent aggregation at vector particle concentrations examined [in the patent]" is "at least 200 mM." *Id.* at 4:61-64. Accordingly, all claims of the '542 patent recite compositions having an ionic strength of at least 200 mM. *Id.* at Claim 1.

2. The First Provisional Application. The inventors, however, did not originally seek to claim compositions with ionic strengths between 200 mM and 300 mM. The earliest provisional application (the '997 Provisional), drafted by named inventor Dr. Wright and filed in June 2004, instead claimed the use of compositions with an ionic strength greater than 300 mM. In fact, the '997 Provisional suggested that at least 300 mM—***not*** 200 mM—was the critical threshold ionic strength that the purportedly inventive compositions needed in order to "substantially prevent aggregation." Ex. 2 at 1 ("Purified vector formulation μ [ionic strength] values preferably >300 mM are required to substantially prevent aggregation.").

3. The Inventors' Confidential Experimental Work. Dr. Wright's conclusion in the '997 Provisional—that at least 300 mM, not 200 mM, was the crucial minimum ionic strength necessary—was based on two experiments he previously conducted: (1) a "filtration" study involving preparing solutions of various ionic strengths containing purified AAV vectors, reducing solution volume to achieve high vector concentration, and analyzing the extent of aggregation by measuring the vector concentration recovered after filtering through a 0.22 μm filter; and (2) a "stability" study examining the extent of aggregation by measuring average particle radius after multiple days of refrigerated storage (4° C) or freeze-thaw cycles (-20° C or -80° C).

The issued ’542 patent includes a cherry-picked and self-serving partial disclosure of the data from these experiments for only ***two*** test compositions, with ionic strengths of 310 mM and 510 mM, respectively. Ex. 1 at Tables 2 & 3. But the ’997 Provisional describes the studies as having also involved testing a ***third*** test composition with a lower ionic strength (210 mM). *See, e.g.*, Ex. 2 at 3, 12. While the ’997 Provisional does not report the results of the stability study, it references a laboratory notebook (“[N]otebook 670”) containing that data. *Id.* at 12.

The reason Dr. Wright concluded in the ’997 Provisional that 300 mM, as opposed to 200 mM, was the critical minimum threshold ionic strength necessary to prevent aggregation is readily apparent from the associated entries in Notebook 670—which Novartis requested in May 2022 but did not obtain until over a year later, on June 12, 2023. [redacted];[3] Ex. 1 at 9:26-27 (“Rh values >20 nm are deemed to indicate the occurrence of some level of aggregation.”); *see* Exhibit A, Amended Counterclaims at ¶¶ 216-21 (summarizing data in Notebook 670).

4. The Second Provisional Application and Prosecution That Led to the ’542 Patent. A second provisional application (the ’222 Provisional) was prepared and filed in December 2004 by Avigen patent attorney Gregory R. Bellomy, on information and belief, with input from Dr. Wright. Despite each being aware of the data from Dr. Wright’s earlier experiments clearly [redacted], the claims in the ’222 Provisional were inexplicably expanded to ***include*** compositions with ionic strengths

[3] Pincites to Notebook 670 refer to the original page numbers therein. Certain pages appear to have been scanned twice in the version produced by Plaintiffs in order to capture their full width.

between 200 mM and 300 mM. Ex. 4 at 28. The specification was also revised to assert that "at least 200 mM" was the "threshold ionic strength" needed to prevent aggregation (*id.* at 4)—a statement that not only lacked support, but also was [redacted]. Further still, all references to the failed 210 mM composition were ***removed*** from the disclosure of the '222 Provisional—as if that data never existed. The contradictory experimental data for the 210 mM test composition was never disclosed to the PTO at any point prior to issuance of the '542 patent by Dr. Wright, Gregory R. Bellomy, or the attorney who prosecuted the application that issued as the '542 patent, Roberta L. Robins—each of whom knew of and had access to the data.

Further still, Roberta L. Robins ultimately secured issuance of the '542 patent on behalf of the applicants through an objectively false argument to the Examiner that "recombinant AAV particles prepared and stored in elevated ionic strength solutions (greater than 200 mM as claimed) remain soluble with no aggregation and can be stored for an extended period." Ex. 5 at 8; Ex. 6 at GENZ_NOV_00004246; Ex. 7. That argument was directly disproven by the undisclosed data for the 210 mM composition, [redacted]. Ex. 3 at 139-141, 143, 145. Without this data, the Examiner had no realistic chance of recognizing this argument as false. But for its concealment, the '542 patent would not have issued with the overbroad ionic strength limitation of "greater than 200 mM." The single most reasonable inference is that the actions by Dr. Wright, Gregory R. Bellomy, and Roberta L. Robins were intended to deceive the PTO into issuing overbroad claims.

5. Additional material misrepresentations and omissions. Plaintiffs' belated production of Notebook 670 also revealed additional misrepresentations and omissions, even as to the 310 mM and 510 mM test compositions actually disclosed in the '542 patent. For example, in the

stability study, the presence of aggregation was assessed at various intervals (i.e., days of refrigerated storage or number of freeze-thaw cycles). Ex. 1 at 9:19-27; Ex. 3 at 122-23. Rather than presenting the complete data from Notebook 670 (*id.* at 139-141, 143, 145), the applicants only disclosed data from certain test intervals (Ex. 1 at Table 3), [redacted] thereby creating the misleading appearance that these two test compositions prevented aggregation more effectively than they did. They did not disclose, for example, [redacted] that again refutes the argument by Roberta L. Robins that the claimed compositions prevent aggregation "for an extended period," which persuaded the Examiner to allow issuance of the '542 patent.

Further, the filtration study in the '542 patent purports to assess the extent of aggregation prevented with each test composition by measuring the proportion of material recovered after filtration, which it suggests is indicative of whether the compositions "prevent" aggregation. Ex. 1 at 8:5-9, 8:44-50, Claim 6. But the results of the filtration study reported in the patent are calculated in relation to a ***theoretical*** target pre-filtration vector concentration as opposed to actual data. *Id.* at 8:19-21, Table 2. Undisclosed data in Notebook 670 reveals that the inventors [redacted] Ex. 3 at 132. In other words, the experiment was [redacted] *See, e.g.*, Ex. 8 at 354:8-356:4. If the data were disclosed, the Examiner would have seen that it undermined the applicants' conclusions based on the filtration study in the specification. Yet, here again, the nondisclosure was never corrected prior to issuance.

Instead, the applicants maintained that use of the allegedly inventive compositions improved post-filtration recovery (and thus prevented aggregation) in comparison to the control composition (Ex. 1 at 8:66-9:1)—an assertion that could not have been made but for their misleading reliance on theoretical target pre-filtration concentrations instead of what they actually measured.

These additional material misrepresentations and omissions likewise were introduced at least as early as the second provisional application and maintained throughout prosecution. Dr. Wright, Gregory R. Bellomy, and Roberta L. Robins each were aware of and had access to the complete experimental data from Notebook 670 and could have disclosed it at any time before the PTO issued the ’542 patent. Had they done so, the PTO would have rejected the claims based on evidence that the asserted utility of preventing aggregation during storage at high vector concentrations was not adequately established. *In re Marzocchi*, 439 F.2d 220, 223-24 (C.C.P.A. 1971). Instead, they concealed that information from the PTO. But for this concealment, the asserted claims would not have issued without evidence of purported utility the inventors did not have. The single most reasonable inference is that their actions were intended to deceive the PTO.

III. PROCEDURAL HISTORY

Novartis seeks leave to amend its Answer and Counterclaims filed in April 2022 (D.I. 18) in response to Plaintiffs’ First Amended Complaint (D.I. 17) asserting infringement of, *inter alia*, the ’542 patent. The deadline for amending the pleadings was November 30, 2022. D.I. 31. Fact discovery commenced in April 2022, the deadline for substantial completion of document production was in December 2022 (*id.*) and, following an extension to the case schedule (D.I. 151), fact discovery was completed on June 30, 2023. The information supporting Novartis’s new grounds of unenforceability due to inequitable conduct was revealed shortly before the close of fact discovery, through Plaintiffs’ belated production on June 12, 2023 of Notebook 670 and the depositions of Dr. Wright and co-inventor Guang Qu on June 16 and June 22, 2023, respectively.

In patent infringement litigation, discovery into the conception and reduction to practice of the inventions disclosed and claimed in the asserted patents is routinely provided as a matter of course. *See, e.g.*, Delaware Default Standard for Discovery at § 4(e) (carving out discovery relating to conception and reduction to practice from 6-year pre-suit cutoff). Such discovery is fundamental to the accused infringer's investigation of the pending claims and defenses, and is thus typically provided by the patent holder asserting infringement relatively early in the fact discovery period.

As further detailed below, Plaintiffs failed to timely provide such discovery in this case, waiting until the final weeks of fact discovery before producing an incomplete subset of requested documents relating to conception and reduction to practice. Plaintiffs' delay is inexcusable as they possessed the relevant materials long before bringing this lawsuit. Although the work underlying the alleged invention claimed in the '542 patent was conducted by Drs. Wright and Qu at a company called Avigen Inc., Genzyme acquired the applications that ultimately led to the '542 patent in December 2005. Ex. 9 at 5, 12. Genzyme also took possession, archived, and maintained "some laboratory notebooks" relating to the inventors' experiments. *Id.* at 12; *see* Ex. 10 at 2.

For a significant portion of the fact discovery period in this case, Novartis reasonably expected that Plaintiffs would produce documents relating to conception and reduction to practice of the alleged invention in the '542 patent in response to Novartis's requests for production served in May 2022 pursuant to their obligations under Fed. R. Civ. P. 26 and their representations that third-party discovery from individuals or entities other than the inventors would not be needed. Ex. 11 (agreeing to produce responsive documents for each of Novartis's requests); Ex. 12. Indeed, Plaintiffs repeatedly indicated that they were working to investigate, review, and produce relevant and responsive documents. For example, in response to Novartis's requests for production, Plaintiffs indicated they would produce documents relating to conception and reduction to practice,

including laboratory notebooks, methods, protocols, reports, test data, experimental results, etc. *E.g.*, Ex. 11 at Request No. 3. In June 2022, Plaintiffs represented that they were "thoroughly and diligently" working to produce "'documents pertaining to the research, testing, and development of the subject matter of the purported inventions of the asserted patents'" during discovery. Ex. 13 at 2. And, in March 2023, Plaintiffs stated their investigation was ongoing. Ex. 10 at 2.

As discovery proceeded, Novartis continued to press Plaintiffs for production of technical documents relating to the research and development efforts of the inventors that led to, *inter alia*, the purported invention in the '542 patent. Ex. 14 at 3-4. Plaintiffs never once indicated they would withhold materials relating to conception and reduction to practice. Yet, as of the December 23, 2022 deadline for substantial completion of document production, Plaintiffs had not produced any.

After diligently reviewing a significant volume of documents produced by Plaintiffs in the weeks surrounding that deadline, Novartis wrote Plaintiffs in February 2023 to again point out their "fail[ure] to produce any documents reflecting the experiments described in the ['542] patent" and further that, of the small number of laboratory notebooks Plaintiffs had produced, "[n]one demonstrate conception or reduction to practice." Ex. 15 at 2. Novartis again asked Plaintiffs to immediately supplement their production to address this deficiency (*id.*), while simultaneously seeking a modest extension of the case schedule to accommodate for the delay (D.I. 138).[4] Plaintiffs responded in a March 2023 letter. Ex. 10. But rather than produce these documents as repeatedly requested, Plaintiffs instead attempted to sidestep their obligation by directing Novartis towards irrelevant materials in their production and suggesting that Genzyme's acquisition of the '542 patent from Avigen excused any remaining deficiencies—ultimately claiming that no

[4] At the time, the close of fact discovery was scheduled for March 31, 2023. After Novartis filed its letter requesting amendment to the case schedule due to Plaintiffs' discovery deficiencies, the parties were able to reach agreement and the Court entered a joint Stipulation and Order extending the close of fact discovery until June 30, 2023. D.I. 151.

materials were being withheld. *Compare id.* at 2 (listing purportedly relevant materials), *with* Ex. 16 at 5 ("none [of the listed documents] demonstrates conception and reduction to practice").

Novartis followed with another letter in April 2023, identifying specific laboratory notebooks that Plaintiffs had failed to produce, including Notebook 670 as expressly cited in the '997 Provisional. *Id.* at 5. Based on its disclosure in the first provisional application, the relevance of Notebook 670 could not have been more self-evident. And, after additional correspondence between the parties over the ensuing months (Exs. 17, 18), Plaintiffs finally produced a copy of this notebook on June 12, 2023—less than three weeks before the close of fact discovery, and three days before the deposition of named inventor, Dr. Wright.[5]

The production of Notebook 670 was significant. It revealed for the first time material information contradicting the disclosures in the '542 patent and arguments made during prosecution that was withheld from the PTO. Plaintiffs' belated production of this highly damning document was suspicious and precluded Novartis from amending its pleadings in accordance with the case schedule. It was also prejudicial to Novartis in view of the impending inventor depositions and the deadline for the close of fact discovery. Further, there is no reasonable explanation for the delay in production since it was apparently located by "coordinating with [Plaintiffs'] Archive Team" (Ex. 17 at 3), where Plaintiffs had repeatedly represented that the laboratory notebooks were kept in the ordinary course of business. *See, e.g.*, Ex. 19 at 11; Ex. 10 at 2.

After Notebook 670 was produced on June 12, 2023, Novartis diligently analyzed its contents and the attendant unenforceability issues before bringing this motion. Novartis obtained

[5] Plaintiffs' refusal to produce other notebooks in their possession remains the subject of an ongoing dispute between the parties that Novartis is working to resolve. Ex. 23. It remains unknown to Novartis what additional relevant information may be found in these notebooks that should have been produced months ago in response to Novartis's year-old document requests. For example, Dr. Wright testified that he did not keep his own notebook and, instead, recorded his experiments in the notebooks of others, as he did in Notebook 670. *See* Ex. 8 at 332:14-25.

additional and corroborating information in its depositions of the named inventors on June 16 and June 22, 2023. After adequate investigation, on June 29, 2023, Novartis notified Plaintiffs that it would be (1) filing the instant motion seeking leave to amend their pleading to assert affirmative defenses and counterclaims of unenforceability as to the '542 patent; and (2) seeking additional discovery via subpoenas to two patent attorneys identified in Novartis's investigation as substantively involved in prosecution of the '542 patent and the inequitable conduct at issue. The parties met and conferred on July 10, 2023, and Plaintiffs continue to obstruct reasonable proceedings by opposing both this motion and the additional discovery Novartis seeks.

IV. LEGAL STANDARDS

A. Amending Pleadings Under Fed. R. Civ. P. 15(a)(2) & 16(b)(4)

Under Rule 15(a)(2), where not permitted as a matter of course, a party seeking to amend its pleading must obtain "the opposing party's consent or the court's leave." District courts have discretion in determining whether to grant leave to amend, *Persawvere, Inc. v. Milwaukee Elec. Tool Corp.*, C.A. No. 21-400-GBW, 2023 WL 3750812, at *1 (D. Del. June 1, 2023), and "should freely give leave when justice so requires." Fed. R. Civ. P. 15(a)(2). Rule 15 has been interpreted as "establishing a liberal policy in favor of allowing amendments." *Lipocine Inc. v. Clarus Therapeutics, Inc.*, C.A. No. 19-622-WCB, 2020 WL 4794576, at *2 (D. Del. Aug. 18, 2020) (citations omitted). "Absent undue or substantial prejudice, an amendment should be allowed under Rule 15(a) unless 'denial [can] be grounded in bad faith or dilatory motive, truly undue or unexplained delay, repeated failure to cure deficiency by amendments previously allowed or futility of amendment.'" *Targus Int'l LLC v. Victorinix Swiss Army, Inc.*, C.A. No. 20-464-RGA, 2021 WL 2291978, at *1 (D. Del. June 4, 2021) (citation omitted). No such factor is present here.

A request to amend a pleading submitted after the court's deadline in the case schedule must also show "good cause" under Rule 16(b)(4). *Targus*, 2021 WL 2291978, at *1; Fed. R. Civ.

P. 16(b)(4) ("A schedule may be modified only for good cause and with the judge's consent."). "'Good cause' exists when the [s]chedule cannot reasonably be met despite the diligence of the party seeking the extension." *WebXchange Inc. v. Dell Inc.*, C.A. No. 08-132-JJF, 2010 WL 256547, at *2 (D. Del. Jan. 20, 2010) (citing Fed. R. Civ. P. 16(b)(4) Advisory Committee's Notes (1983 amendments)). The analysis under Rule 16(b)(4) logically precedes the Rule 15(a)(2) analysis, such that the inquiry focuses first on the diligence of the movant before examining potential prejudice to the non-movant. *See Targus*, 2021 WL 2291978, at *1 (citations omitted).

B. Pleading Inequitable Conduct

Individuals associated with the filing and prosecution of a patent application have "a duty of candor and good faith in dealing with the [United States Patent] Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability." 37 C.F.R. § 1.56(a). A violation of the duty of candor and good faith—e.g., by making material misrepresentations to or withholding material information from the PTO—may give rise to "inequitable conduct." *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1287, 1291 (Fed. Cir. 2011) (en banc). "To prevail on the defense of inequitable conduct, the accused infringer must prove that the applicant misrepresented or omitted material information with the specific intent to deceive the PTO." *Id.* at 1287; *see also Ohio Willow Wood Co. v. Alps S., LLC*, 813 F.3d 1350, 1357 (Fed. Cir. 2016). Because direct evidence of deceptive intent is rare, intent may be inferred from indirect and circumstantial evidence if "the single most reasonable inference able to be drawn from the evidence" is a specific intent to deceive. *Therasense*, 649 F.3d at 1290.

Allegations of inequitable conduct must be pled with particularity under Fed. R. Civ. P. 9(b). *Exergen*, 575 F.3d at 1326. As the Federal Circuit has explained, to meet this requirement:

> [T]he pleading must identify the specific who, what, when, where, and how of the material misrepresentation or omission committed before the PTO. Moreover, although 'knowledge' and 'intent' may

> be averred generally, a pleading of inequitable conduct under Rule 9(b) must include sufficient allegations of underlying facts from which a court may reasonably infer that a specific individual (1) knew of the withheld material information or of the falsity of the material misrepresentation, and (2) withheld or misrepresented this information with a specific intent to deceive the PTO.

Id. at 1328-29.

In view of the requirements of Rule 9(b), counterclaims for inequitable conduct should not be prematurely advanced and are often presented, as here, around the end of fact discovery after document collection is complete and key witnesses have been deposed. *See, e.g.*, *Enzo Life Scis., Inc. v. Digene Corp.*, 270 F. Supp. 2d 484, 489 (D. Del. 2003) ("[Defendant] was prudent and possibly required to confirm the factual allegations through discovery"); *Evonik Degussa GmbH v. Materia Inc.*, C.A. No. 09-636-NLH-JS, 2011 WL 13152274, at *4 (D. Del. Dec. 13, 2011).

Inequitable conduct should not be asserted based on speculation at the beginning of a case, but rather in view of facts discovered and developed after careful investigation during the litigation. *Targus*, 2021 WL 2291978, at *2 (quoting *Lipocine*, 2020 WL 4794576, at *3) ("[I]t is not unreasonable for patent challengers to postpone raising allegations of inequitable conduct until sufficient discovery has been conducted to enable the challenger [to] confirm its suspicions and gather the evidence necessary to sustain its claim."); *L'Oréal S.A. v. MSD Consumer Care, Inc.*, C.A. No. 12-99-GMS, 2014 WL 12929551, at *1 (D. Del. Sept. 18, 2014) (similar). In light of such practical concerns, this Court has repeatedly allowed parties to plead inequitable conduct after discovery has closed. *See, e.g.*, *Persawvere*, 2023 WL 3750812 (granting motion to amend to add inequitable conduct defense after close of fact discovery); *Evonik*, 2011 WL 13152274 (same); *see also Lipocine*, 2020 WL 4794576, at *3 (explaining that inequitable conduct is frequently raised after the deadline for amending the pleadings and the close of fact discovery).

V. ARGUMENT

A. Good Cause Supports Novartis's Request for Leave to Amend

1. Novartis Could Not Have Reasonably Raised its Inequitable Conduct Allegations Earlier

As detailed in § III, Novartis has diligently undertaken discovery since the inception of this case. Beginning in May 2022, Novartis sought discovery from Plaintiffs through written discovery requests, including requests seeking documents and information relating to the development of the subject matter in the '542 patent, its conception, and its reduction to practice. *See, e.g.*, Ex. 11 at Request Nos. 3, 6-7, 11-12, 17, 22, 29; Ex. 20 at Interrogatory No. 3. Novartis persistently corresponded and met with Plaintiffs in an effort to ensure it received the highly relevant early-development and technical records documenting the inventors' work at Avigen.

As is often the case, discovery Novartis obtained only recently brought to light additional facts that support the newly-pled allegations of inequitable conduct. *See Targus*, 2021 WL 2291978, at *2 (inequitable conduct allegations rely on evidence that often may only be obtained through discovery and are commonly asserted after the deadline for amending pleadings); *Lipocine*, 2020 WL 4794576, at *3 (similar). Indeed, despite Novartis's diligence, it was not until the mid-June 2023 production of Notebook 670—nearly eight months after the deadline for the parties to amend their pleadings—that Novartis first learned of data that was not disclosed to the PTO undermining the asserted utility of the purported invention, contradicting arguments made during prosecution, and casting doubt on the inventors' possession of the full scope of claimed subject matter. Upon learning that information, Novartis worked quickly to investigate the particularized factual bases of the apparent inequitable conduct.

Because "allegations of inequitable conduct are serious" and strict pleading requirements apply, patent challengers are generally permitted to "fully synthesize the information available to

[them] before filing a motion to amend." *Eisai Co. v. Teva Pharm. USA, Inc.*, 247 F.R.D. 445, 449 (D.N.J. 2007). Indeed, courts routinely find it appropriate for allegations of inequitable conduct to be brought after the deadline for amending pleadings. *E.g.*, *Targus*, 2021 WL 2291978; *Lipocine*, 2020 WL 4794576. Here, despite serving specific document requests on May 6, 2022, Novartis did not receive the document suggesting inequitable conduct (Notebook 670) until one month ago. After its production, Novartis obtained additional factual support in its depositions of the named inventors on June 16 and June 22, 2023. Novartis took the requisite time after the production and depositions to compile the facts and analyze them in relation to the controlling law. And it brought this motion promptly after completing its investigation, which confirmed that its inequitable conduct allegations were grounded in fact and would meet the heightened pleading requirements of Fed. R. Civ. P 9(b), and conferring with Plaintiffs. *See id.* at *4-5 (seeking leave to amend within three months of obtaining critical discovery is generally not considered "undue delay").

Given that the evidence supporting its new allegations of inequitable conduct either had not been provided to Novartis or did not exist at the original deadline for amending the pleadings, Novartis has not unduly delayed in presenting its allegations.

2. The Proposed Amendment Will Not Prejudice Plaintiffs

Plaintiffs cannot credibly contend that they would be prejudiced by the amendment, much less unduly so. It is Plaintiffs' burden to establish prejudice under Rule 15(a)(2). *Lipocine*, 2020 WL 4794576, at *6. To do so, the non-movant "must show that it was unfairly disadvantaged or deprived of the opportunity to present facts or evidence which it would have offered . . . had the amendments been timely." *Persawvere*, 2023 WL 3750812, at *3-4 (quoting *Bechtel v. Robinson*, 886 F.2d 644, 652 (3d Cir. 1989)) (rejecting non-movant's arguments of undue prejudice).

Any allegation that Plaintiffs will be unduly prejudiced by Novartis's amendment should be viewed with deep skepticism. The inequitable conduct allegations Novartis seeks to add are

based on information known to and belatedly disclosed by Plaintiffs and/or the named inventors of the '542 patent, each of whom have been represented by Plaintiffs' counsel in this litigation since at least March 2022. Exs. 21, 22. Plaintiffs and their counsel had access to and were presumably aware of the disclosed information (and more), well before the close of fact discovery. And the timing of its disclosure was entirely within Plaintiffs' control. Further, trial is not set to begin until March 25, 2024. D.I. 151. Plaintiffs will have full opportunity to participate in any additional fact or expert discovery relating to the new inequitable conduct allegations. *See Persawvere*, 2023 WL 3750812, at *3 (noting that "the issues of intent and materiality ordinarily turn on evidence in the patentee's possession" such that "the loss of an opportunity for discovery on inequitable conduct typically does not result in prejudice to the patentee," and collecting cases). And Plaintiffs will have sufficient time to address Novartis's new inequitable conduct allegations, which Novartis provided notice of in a draft amended Answer and Counterclaims sent to Plaintiffs on June 30, 2023, and which are grounded in information already in Plaintiffs' possession.

B. The Proposed Amendment Is Not Futile

Novartis's proposed amended pleading is not futile. In assessing futility of a proposed amendment, courts apply the standard that applies to motions to dismiss under Fed. R. Civ. P. 12(b)(6). *Lipocine*, 2020 WL 4794576, at *8 (citation omitted). To survive a Rule 12(b)(6) motion, a pleading "must contain sufficient factual matter, accepted as true, to 'state a claim to relief that is plausible on its face.'" *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009).

Under Rule 9(b), a pleading of inequitable conduct must identify "the specific who, what, when, where, and how of the material misrepresentation or omission committed before the PTO." *Exergen*, 575 F.3d at 1327. Because intent can be inferred from indirect and circumstantial evidence, "the claimant need only allege facts from which the Court could reasonably infer that the patent applicant made a deliberate decision to deceive the PTO." *Wyeth Holdings Corp. v.*

Sandoz, Inc., C.A. No. 09-cv-955-LPS-CJB, 2012 WL 600715, at *7, *14 (D. Del. Feb. 3, 2012) (inequitable conduct claims are rarely disallowed "at the pleading stage due to the failure to adequately allege scienter"). Novartis is not required to prove its case at the pleading stage. *See Exergen*, 575 F.3d at 1329, n.5 (contrasting pleading requirements with eventual burden of proof).

Granting leave for this amendment would not be futile because Novartis's proposed amended pleading (Exhibit A) states a plausible claim for relief in more than sufficient detail to satisfy the requirements for pleading inequitable conduct under Rule 9(b).

The **"who"** is (1) Dr. Wright, named inventor of the '542 patent, who knew of the undisclosed data in his laboratory notebook entries, including the material failed experiments with a 210 mM test composition upon which Novartis's pleading is partly based; (2) Gregory R. Bellomy, the attorney who filed the '222 Provisional, who also knew of the undisclosed data and failed experiments, and who deliberately withheld certain material information from the '222 Provisional; and (3) Roberta L. Robins, the attorney who prosecuted, *inter alia*, the application that issued as the '542 patent, and who, on information and belief, knew of the undisclosed data and failed experiments, but did not disclose such information to the PTO, and signed multiple communications with the PTO containing false or misleading statements contradicted by the withheld information, including a November 18, 2014 Amendment and Response. *See, e.g.*, Exhibit A, Amended Counterclaims at ¶¶ 124-25, 130-45, 151-53, 155-57, 161-63, 165, 168-69, 172, 174, 176-77, 181, 183-89, 198, 200-02, 206, 208, 212, 224-25, 227-32, 234-35, 237, 242-56.

The **"what"** is (1) deliberate failure of Dr. Wright, Gregory R. Bellomy, and, on information and belief, Roberta L. Robins, to submit and/or properly represent to the PTO information material to the patentability of the '542 patent, including complete data from confidential, non-public [redacted]

[redacted]; and (2) false and misleading representations to the PTO made by Gregory R. Bellomy and Roberta L. Robins, as patent attorneys, and Dr. Wright, as applicant, *inter alia*, in the specification of the ’222 Provisional filed in December 2004, the specification of the ’553 Application that issued as the ’542 patent, and in an Amendment and Response to Office Action filed on November 18, 2014 that was relied upon by the PTO Examiner as a basis for allowing the ’542 patent. *See, e.g.*, *id.* at ¶¶ 124-25, 129-145, 155-58, 160-66, 168-70, 172, 174-79, 181-82, 191-202, 206-56.

The **“when”** is (1) the failures of Dr. Wright, Gregory R. Bellomy, and Roberta L. Robins, to uphold their respective duties of candor to the PTO from the filing of the earliest provisional application to which the ’542 patent claims priority on June 1, 2004, continuing through the filing of a second provisional application to which the ’542 patent claims priority on December 22, 2004, continuing through the filing of a non-provisional application to which the ’542 patent claims priority on June 1, 2005, continuing through the filing of the application on March 19, 2010 that matured into the ’542 patent, and continuing until the ’542 patent issued on June 9, 2015; (2) Roberta L. Robins’s November 18, 2014 filing of an Amendment and Response to Office Action during prosecution of the ’542 patent containing false and misleading statements material to its patentability, which led to allowance of the application that became the ’542 patent on February 3, 2015 with overbroad claims not adequately supported by the disclosure therein and contradicted

by confidential experiments of the inventors of which she was aware. *See, e.g.*, *id.* at ¶¶ 124-25, 130-49, 156-58, 160-89, 197-202, 206-08, 212, 215, 225-232, 235-37, 242-55.

The **"where"** is the places of employment of named inventor Dr. Wright as well as the patent attorneys, Gregory R. Bellomy and Roberta L. Robins, throughout the time periods noted above during which they failed to disclose known material information and made material misrepresentations, and the PTO, where the effect of these nondisclosures and misleading statements led to the improper issuance of the '542 patent with overbroad claims not adequately supported with the disclosure and description required by 35 U.S.C. § 112. *See, e.g.*, *id.* at ¶¶ 125, 130-45, 149, 153-54, 156, 160, 162-82, 184-85, 187-89, 200-04, 216-18, 222-31, 240, 242-255.

The **"how"** is (1) Dr. Wright, through attorneys Gregory R. Bellomy and Roberta L. Robins, knowingly failing, from the outset of their respective involvement in prosecution, to disclose additional material information to the PTO regarding the inventors' experiments partially disclosed and alleged to support patentability, including [redacted] and (2) the filing by Roberta L. Robins, as the prosecuting attorney on the '553 Application that issued as the '542 patent, and Dr. Wright, as applicant, of an Amendment and Response to Office Action with the PTO that contained false and misleading statements in order to secure allowance of the '542 patent. *See, e.g.*, *id.* at ¶¶ 124-25, 130-45, 148-49, 155-83, 187-89, 197-202, 206, 209-56.

VI. CONCLUSION

For the foregoing reasons, Novartis respectfully requests that the Court grant its motion.

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Of Counsel:

John Livingstone
M. David Weingarten, Ph.D.
Megan Meyers
Shannon Patrick
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER LLP
271 17th Street, NW, Suite 1400
Atlanta, GA 30363-6209
(404) 653.6449
John.livingstone@finnegan.com
David.weingarten@finnegan.com
Megan.meyers@finnegan.com
Shannon.patrick@finnegan.com

Amanda Murphy, Ph.D.
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER LLP
1 London Bridge
London, United Kingdom SEI 9BG
Amanda.murphy@finnegan.com
+44 (0)20.7864.2800

Cora Holt
D. Brian Kacedon
Yieyie Yang, Ph.D.
Emily Gabranski
Christopher W. Weber, Ph.D.
Amy L. Fulton
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER LLP
901 New York Avenue, NW
Washington, DC 20001-4413
(202) 408.4153
Cora.holt@finnegan.com
Brian.kacedon@finnegan.com
Yieyie.yang@finnegan.com
Emily.gabranski@finnegan.com
Christopher.weber@finnegan.com
Amy.fulton@finnegan.com

MCCARTER & ENGLISH, LLP

/s/ Alexandra M. Joyce
Daniel M. Silver (#4758)
Alexandra M. Joyce (#6423)
Renaissance Centre
405 N. King Street, 8th Floor
Wilmington, Delaware 19801
(302) 984-6300
dsilver@mccarter.com
ajoyce@mccarter.com

Attorneys for Defendants

Marta Garcia Daneshvar
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER LLP
Two Seaport Lane
Boston, MA 02210-2001
(617) 646.1635
Marta.garcia@finnegan.com

Jeffrey D. Smyth
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER LLP
3300 Hillview Avenue, 2nd Floor
Palo Alto, CA 94304-1203
(605) 849.6600
Jeffrey.smyth@finnegan.com