IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LINDIS BIOTECH, GMBH, Plaintiff, v. AMGEN INC., Defendant.	Civil Action No. 22-35-GBW [redacted] **Public Version** **Filed August 20, 2025**

James D. Taylor, Jr., Jessica M. Jones, Michelle C. Streifthau-Livizos, SAUL EWING LLP, Wilmington, DE.

Counsel for Plaintiff

Melanie K. Sharp, James L. Higgins, Stephanie N. Vangellow, YOUNG CONAWAY STARGATT & TAYLOR, LLP, Wilmington, DE; Michael J. Wise, Joseph P. Hamilton, Lara J. Dueppen, Courtney M. Prochnow, Alisha C. Burgin, Doris Alvarez-Reyes, PERKINS COIE LLP, Los Angeles, CA; Garmai Gorlorwulu, Blake A. Winn, PERKINS COIE LLP, San Diego, CA; Brian Kao, J. Drew Diamond, Blake Greene, Wendy A. Whiteford, AMGEN INC., Thousand Oaks, CA; Lisa B. Pensabene, Hassen Sayeed, Carolyn S. Wall, Jing Ying (Amy) Zhao, O'MELVENY & MYERS LLP, New York, NY; Luann L. Simmons, Sorin Zaharia, O'MELVENY & MYERS LLP, San Francisco, CA; Lindsay H. Autz, AUTZ IP LLC, Fairfield, CT.

Counsel for Defendant

OPINION

August 14, 2025
Wilmington, Delaware

GREGORY B. WILLIAMS
UNITED STATES DISTRICT JUDGE

This action[1] follows from Lindis' suit against Amgen, alleging infringement of U.S. Patent Nos. 10,071,158 ("the '158 Patent") and 8,709,421 ("the '421 Patent") (collectively, the "Asserted Patents"). A jury trial took place from December 9 to December 17, 2024, in which Lindis asserted infringement of the Asserted Patents and Amgen asserted that the Asserted Patents were invalid. The jury returned a verdict on December 17, 2024 finding, *inter alia*, infringement and no invalidity of the Asserted Patents. D.I. 336.

Subsequently, on January 29 and 30, 2025, the Court presided over a two-day bench trial where the parties disputed whether Lindis committed inequitable conduct when prosecuting the Asserted Patents. The parties submitted pre-trial briefs (D.I. 345; D.I. 353; D.I. 360) and post-trial proposed findings of fact and conclusions of law (D.I. 371, D.I. 393; D.I. 399).[2] Upon review of these documents, along with consideration of the trial record, the exhibits introduced into evidence, and the stipulations of fact by the parties (*see* D.I. 287-1), the Court concludes that the Asserted Patents are unenforceable due to inequitable conduct. Below, the Court separately sets forth its findings of fact and conclusions of law as required by Rule 52(a)(1) of the Federal Rules of Civil Procedure.

[1] The Plaintiff is Lindis Biotech, GmbH ("Lindis" or "Plaintiff"). The Defendant is Amgen Inc. ("Amgen" or "Defendant").

[2] Citations to a party's finding of fact are labeled as Amgen/Lindis FoF, and citations to a party's conclusion of law are labeled as Amgen/Lindis CoL.

I. FINDINGS OF FACT

The Court divides its Findings of Fact into the following Sections: (A) the Parties, (B) the Experts, (C) Background Technology, (D) the Asserted Patents, (E) Background of the Invention, (F) Duties Before the PTO, and (G) the Patent Application Process.

A. The Parties

1. Plaintiff Lindis Biotech, GmbH is a corporate entity organized and existing under the laws of Germany. D.I. 287-1 ¶ 1.

2. Defendant Amgen Inc. is a corporate entity organized and existing under the laws of the State of Delaware. Amgen's principal place of business is in Thousand Oaks, California. D.I. 287-1 ¶ 2.

3. Lindis filed this lawsuit on January 10, 2022. D.I. 287-1 ¶ 4.

B. The Experts

4. Robert L. Stoll ("Mr. Stoll"), Amgen's expert, worked at the United States Patent and Trademark Office ("PTO" or "Patent Office") for over 29 years. He has been qualified by this Court to be a Patent Office Practice and Procedure expert several times. BTr. at 25:17–27:9.[3]

5. Mr. Stoll was admitted in this case as an expert in Patent Office Practice and Procedure. BTr. 27:13-14.

6. Dr. Wayne Marasco ("Dr. Marasco"), Amgen's expert, obtained a BA in biology from Millersville State College, a PhD in immunology at the University of Connecticut Medical

[3] Citations to the Bench Trial transcript are noted as BTr., and citations to the Jury Trial transcript are noted as JTr.

School, and a MD from the University of Michigan Medical School. He is a professor at Harvard Medical School and at the Dana-Farber Cancer Institute. JTr. at 981:1–982:6.

7. Dr. Marasco was admitted in this case as an expert in the field of immunology and antibodies. JTr. at 985: 13-14.

8. Dr. Robert Jon Soiffer ("Dr. Soiffer"), Amgen's expert, is a medical doctor specializing in medical oncology and the chief of the Division of Hematological Malignancies at the Dana-Farber Cancer Institute. Dr. Soiffer also is a professor of medicine at Harvard Medical School. JTr. 1153:15–1154:23.

9. Dr. Soiffer was admitted in this case as an expert in medical oncology and treatment of cancer with immunotherapeutic antibodies. JTr. at 1159:9-11.

10. Dr. Leslie Oleksowicz ("Dr. Oleksowicz"), Lindis' expert, has a Bachelor of Arts from Amherst College and received a MD from Tufts University School of Medicine. JTr. at 315:8-14.

11. Dr. Oleksowicz was admitted in this case as an expert in oncology and hematology. JTr. at 320:3-9.

C. Background Technology

12. Immunotherapy can involve stimulating the body's own immune system to fight disease. D.I. 287-1 ¶ 5.

13. Antibodies are proteins made up of sequences of amino acids. D.I. 287-1 ¶ 6.

14. An antibody's biological properties are determined largely by the specific amino acid sequences that make up the antibody. D.I. 287-1 ¶ 7.

15. Bispecific antibodies have affinity for two different antigens. D.I. 287-1 ¶ 8.

16. Antigen refers to a molecule that can bind specifically to an antibody. Antigens may be present on the surface of cells. D.I. 287-1 ¶ 9.

17. Bispecific antibodies can bind a CD marker on the surface of a T cell (a type of immune cell) and a target antigen on the surface of a target cell. Some bispecific antibodies can trigger an immune response that destroys a target cell. D.I. 287-1 ¶ 10.

18. Immune responses can result in the release of cytokines. High elevations of cytokines may cause Cytokine Release Syndrome, which is sometimes referred to as a "cytokine storm." Cytokine Release Syndrome may be life-threatening or fatal. D.I. 287-1 ¶ 11.

19. Specific release of cytokine refers to the release of cytokines caused by a bispecific antibody binding to both the target antigen on a cell and the CD marker on a cell. D.I. 287-1 ¶ 12.

20. Non-specific release of cytokines refers to the release of cytokines caused by a bispecific antibody binding to the CD marker on a cell but independent of the antibody binding to the target antigen on a cell. D.I. 287-1 ¶ 13.

21. Some bispecific antibodies that bind T cells may not cause non-specific release of cytokines. D.I. 287-1 ¶ 14.

22. Glucocorticoids are a type of corticosteroid that can have anti-inflammatory and immunosuppressant properties. D.I. 287-1 ¶ 15.

D. The Asserted Patents

23. United States Patent No. 10,071,158 ("the '158 Patent") issued on September 11, 2018, and United States Patent No. 8,709,421 ("the '421 Patent") issued on April 29, 2014. D.I. 287-1 ¶ 3.

24. The patent specification of the Asserted Patents discloses Dr. Lindhofer's antibody, Removab (or catumaxomab), an anti-EpCAMxanti-CD3 antibody, as one of two examples of immunostimulating antibodies of the claimed invention. JTX001 at 2:65-67. It is the

only antibody with reported data in the entire specification. JTr. at 273:6-16, 276:8-14, 276:22–277:3 (Lindhofer).

25. The Asserted Patents are entitled "Combination of the Application of Antibodies for Immunostimulation Together with Glucocorticoids." D.I. 287-1 ¶ 16.

26. The named inventors of the Asserted Patents are Drs. Horst Lindhofer and Markus M. Heiss. D.I. 287-1 ¶ 17.

27. International Application No. PCT/EP2005/004468 ("the '468 PCT") was filed on April 26, 2005, naming Drs. Horst Lindhofer and Markus M. Heiss as co-inventors. United States Application No. 11/977,856 ("the '856 Application"), which issued as the '421 Patent, was filed on October 26, 2007, as a continuation-in-part of the '468 PCT. United States Application No. 14/247,029, which issued as the '158 Patent, was filed on April 7, 2014, as a continuation of the '856 Application. The Asserted Patents claim priority to the '468 PCT. D.I. 287-1 ¶ 18.

28. The Asserted Patents have substantially identical specifications. D.I. 287-1 ¶ 19.

29. The Abstract of the Asserted Patents states: "The present invention relates to methods for reducing or eliminating the non-specific release of a cytokine associated with a disease comprising administering at least one glucocorticoid and an immunostimulating antibody." D.I. 287-1 ¶ 20.

30. The "Detailed Description of the Invention" section of the patent specification says that the inventors made a "surprising finding that the combination of immunostimulating antibodies of defined specificity together with glucocorticoids results in a reduction of the nonspecific release of cytokine by immunological cells without the action of the immunostimulating antibodies directed against the defined antigen(s) being impaired."

JTX001 at 3:29-35; JTr. at 274:18–276:7 (Lindhofer) [hereinafter the "surprising finding"]. In other words, the use of glucocorticoids with an immunostimulating antibody does not impair the tumor cell killing activity of the antibody. BTr. at 55:16-21 (Marasco); JTr. at 275:23–276:4 (Lindhofer). The specification explains that this means that "the immune activity of the antibody or antibodies, directed against the defined antigen(s), remains largely unchanged." JTX001 at 3:35-44; BTr. at 55:22–56:15 (Marasco).

31. The "Background of the Invention" of the patent specification states that "in the state of the art, an administration of glucocorticoids in connection with the stimulation of the immune system of a patient by antibody therapies, for example with trifunctional antibodies (trAB), is totally unknown." JTX001 at 2:13-17; BTr. at 225:4–226:13 (Soiffer). [hereinafter "totally unknown" premise].

1. The '421 Patent

32. The '421 Patent issued on April 29, 2014. D.I. 287-1 ¶ 21.

33. The earliest priority date listed on the '421 Patent is April 26, 2005, which is the filing date of the '468 PCT. D.I. 287-1 ¶ 22.

34. The '421 Patent has 15 issued claims. Lindis has asserted claims 3, 8 and 15 ('421 Patent "Asserted Claims") against Amgen. D.I. 287-1 ¶ 23.

35. Independent claim 1 and the '421 Patent Asserted Claims are reproduced below.

> **Claim 1.** A method for reducing the non-specific release of a
>
> cytokine in a subject which is associated with a treatment of a cancer or tumor with an antibody comprising
>
> administering to the subject at least one glucocorticoid immediately before or immediately after administering at least one trifunctional, bispecific immunostimulating antibody directed against a tumor antigen and a CD marker,
>
> which glucocorticoid reduces the non-specific release of the cytokine associated with the treatment of the cancer or tumor,

wherein the CD marker is selected from the group consisting of CD2, CD3, CD4, CD5, CD6, CD8, CD28, and CD44.

Claim 3. The method of claim 1, wherein the glucocorticoid is selected from the group consisting of prednisone, prednisolone, methylprednisolone, triamcinolone, betamethasone, dexamethasone, cortisone acetate, prednylidene, deflazacort, cloprednol, fluocortolone and budenoside.

Claim 8. The method of claim 1, wherein the tumour antigen is selected from the group consisting of EpCAM, HER2/neu, HER3/neu, G250, CEA, MAGE, VEGF, GD3, EGFR, CVB3 integrin, HLA, HLA-DR, ASC, CD1, CD7, CD11, CD13, CD14, CD19, CD2O, CD21, CD22, CD23, CD24, CD33, CD40, CD41, CD52, c-erb-2, CALLA, MHCII, CD44v3, CD44v6, CD117, p97, ganglioside GD2, GD3, C215, antigen of the antibody 9.2.27, antigen of the antibody NE 150 and antigen of the antibody CA125.

Claim 15. A method of permitting increased antibody administration during a cancer treatment of a subject comprising

administering to the subject at least one glucocorticoid immediately before, concurrently or immediately after treatment with at least one trifunctional, bispecific immunostimulating antibody directed against a tumor antigen and a CD marker

.

which glucocorticoid reduces the non-specific release of cytokines associated with the antibody treatment,

wherein the CD marker is selected from the group consisting of CD2, CD3, CD4, CD5, CD6, CD8, CD28, and CD44.

2. The '158 Patent

36. The '158 Patent issued on September 11, 2018. D.I. 287-1 ¶ 25.

37. The earliest priority date listed on the '158 Patent is April 26, 2005, which is the filing date of the '468 PCT. D.I. 287-1 ¶ 26.

38. The '158 Patent has 20 issued claims. D.I. 287-1 ¶ 27.

39. Lindis has asserted claims 1, 12 and 20 ('158 Patent "Asserted Claims") against Amgen. D.I. 287-1 ¶ 28.

40. Independent claims 1, 12 and 20 are reproduced below.

Claim 1. A method for reducing the non-specific release of at least one cytokine in a subject, which is associated with a treatment of a cancer with at least one bispecific immunostimulating antibody, comprising:

administering an effective amount of at least one glucocorticoid to the subject by way of premedication on the same day and prior in time relative to the administration to the subject of the at least one bispecific immunostimulating antibody directed against a tumor antigen and a CD marker such that said effective amount of said at least one glucocorticoid reduces cytokine release caused by the administration of the least one bispecific immunostimulating antibody,

wherein the at least one glucocorticoid comprises dexamethasone,

the tumor antigen is CD19, and the CD marker is CD3.

Claim 12. A method of permitting increased antibody administration during a cancer treatment of a subject comprising:

administering to the subject at least one glucocorticoid by way of premedication on the same day and prior in time relative to the administration to the subject of at least one recombinant bispecific immunostimulatory scFv antibody exhibiting a first specificity against the tumor antigen CD 19 and a second specificity against the T-cell marker CD3,

wherein the at least one glucocorticoid reduces cytokine release caused by the administration of the at least one recombinant bispecific immunostimulating scFv antibody, and the at least one glucocorticoid comprises dexamethasone.

Claim 20. A method for reducing the non-specific release of at least one of IL-6, TNF-alpha, and IFN-gamma cytokines in a subject, which is associated with a treatment of a cancer with at least one recombinant bispecific immunostimulatory scFv antibody, comprising:

administering to the subject an effective amount of 1 mg to 1000 mg of at least one glucocorticoid by way of premedication on the same day and prior in time relative to the administration to the subject of at least one recombinant bispecific immunostimulatory scFv antibody exhibiting a first specificity against the tumor antigen CD 19 and a second specificity against the T-cell marker CD3,

wherein said effective amount of the at least one glucocorticoid reduces cytokine release caused by the administration of the at least one recombinant bispecific immunostimulating scFv antibody,

wherein said at least one glucocorticoid comprises dexamethasone.

E. Background of the Invention

41. In the early 2000s, glucocorticoid premedication with immunostimulatory antibodies, such as Herceptin and Rituxan, was established successfully and used as a common tool in the clinic. DTX-199 at 4-5; DTX-335 at 17; BTr. at 236:13–237:5, 237:22–238:7 (Soiffer); *see also* JTr. at 1191:2–1193:2 (Soiffer), 149:13-20 (Lindhofer).

42. In September 2001, scientists published a Rituxan clinical study that successfully used glucocorticoid premedication to decrease side effects caused by cytokine release (the "Huhn Reference" or "Huhn"). DTX-199 at 4-5; BTr. at 237:22–238:7 (Soiffer); *see also* JTr. at 1191:2–1193:2 (Soiffer).

43. In May 2002, "[q]uick and dirty" experiments were conducted with Removab. JTr. at 1363:20–1364:13, 1371:20–1372:12 (Stroehlein), 279:8-11 (Lindhofer). These experiments were included in the patent as Examples 1-3 and used as the basis for the "surprising finding." JTX001 at Examples 1-3, 24:45-48 (The text accompanying Ex. 3 states "in vitro the specific immune activity directed against the tumour-cell antigen EpCAM was not influenced significantly."); JTr. at 1363:20–1364:13, 1371:20–1372:12 (Stroehlein).

1. The Trion Report

44. To confirm the results of the "quick and dirty" experiments, Dr. Lindhofer directed scientists at his company, Trion Research ("Trion") to conduct further testing to generate "more reliable" data. JTr. at 276:18-25, 278:19–279:11 (Lindhofer) (confirming the "purpose of this study was to reproduce the research data that was also in [Dr. Lindhofer's] initial work and integrated into [his] patent"); BTr. at 167:21–168:21, 134:14-23 (Lindhofer).

45. Trion scientists also tested additional parameters that were not tested in the "quick and dirty" experiments, for example, different antibody concentrations, different glucocorticoids (hydrocortisone and dexamethasone), and granzyme B data. DTX-335 (Trion Report) at 5, 13-18; BTr. at 61:18–62:4 (Marasco). The testing results are not incorporated in the specification of the Asserted Patents. BTr. at 63:6-11, 67:8-12, 67:17–68:11, 70:6-8, 73:4-6 (Marasco).

46. In 2005, Trion scientists issued the Trion Report. DTX-335 at 3; BTr. at 169:4-12 (Lindhofer); JTr. at 277:4–278:1 (Lindhofer). Dr. Lindhofer testified that he "of course" saw the conclusions of the Trion Report. BTr. at 136:7-12 (Lindhofer).

47. On April 12, 2005, three scientists signed the Trion Report attesting to its accuracy - Dr. Lindhofer as CEO of Trion, Dr. Michael Jäger of Trion, and Dr. M. Kluge of Fresenius Biotech. DTX-335 at 3 ("The undersigned herewith confirm that this report accurately reflects the results of the study."); *see also* BTr. at 169:4-12; JTr. at 277:15-18, 280:3-8 (Lindhofer).

48. The Trion Report concludes at least ten times that dexamethasone inhibits tumor cell killing by Removab. *See* BTr. at 62:10-15 (Marasco) ("[T]here's ten [statements] that repeatedly state the dexamethasone inhibited tumor cell killing. . . ."). The Trion Report (DTX-335) states: "Granzyme B secretion after removab stimulation is inhibited by dexamethasone in vitro" (*id.* at 5, 13); "Dexamethasone inhibits killing of EpCAM+ tumor cells by removab" (*id.* at 5, 14); "Decrease in granzyme B secretion could point to reduced killing ability of T cells against tumor cells." (*id.* at 13); "[H]igher concentrations of dexamethasone influenced tumor cell killing even at high removab concentrations" (*id.* at 14); "Moreover, in samples with 1 ng/ml removab, dexamethasone showed a clear inhibition of tumor cell

killing at all dexamethasone concentrations, whereas influence of hydrocortisone on removab-induced killing was only weak to non-existent." (*id.* at 16); "Dexamethasone concentrations of l µg/ml and 0.1 µg/ml showed negative impact on removabs' killing abilities even at high removab concentrations of 50ng/ml and 10 ng/ml" (*id.* at 17); "According to this in vitro tests dexamethasone influences removab-induced killing." (*id.* at 18); "Dexamethasone influenced removab-induced killing of tumor cells even at high removab concentrations, whereas hydrocortisone has no or only a weak effect on killing at all concentrations." (*id.*); "The difference of dexamethasone and hydrocortisone is visible at a low removab concentration of l ng/mL where almost complete killing was visible in the presence of hydrocortisone, but tumor cell growth was seen in dexamethasone samples." (*id.*); "In summary, dexamethason[e] - at concentrations from l µg/ml to [0.1] µg/ml - inhibited in in vitro experiments the removab-induced cytokine/granzyme B secretion and tumor cell killing." (*id.* at 18). BTr. at 62:10–63:23 (Marasco).

49. These conclusions of the Trion Report contradict the "surprising finding" from the patent specification. *Compare* Finding of Fact ("FoF") ¶ 48, DTX-335 at 17 ("Dexamethasone concentrations of l ug/ml and 0.1 µg/ml showed negative impact on removabs' killing abilities even at high removab concentrations of 50ng/ml and 10 ng/ml) *with* '421 patent at 3:27-35 ("This novel indication of glucocorticoids . . . is based on the surprising finding that the combination of immunostimulating antibodies of defined specificity together with glucocorticoids results in a reduction of the non-specific release of cytokine by immunological cells without the action of the immunostimulating antibodies . . . being impaired.").

50. Because the Trion Report contradicts the surprising finding, a person of ordinary skill in the art ("POSA") would find that the "inventors were not in possession of the full scope of the claimed method." BTr. at 77:8-11, 82:10–85:10, 113:11–114:15 (Marasco).

51. The Trion Report also states that: "The released cytokines contribute to the killing mechanism involved in removabs' mode of action but also play a major role in inducing side effects like fever and first dose cytokine release syndrome in patients receiving removab therapy. These observations were also made during treatment with monoclonal antibodies. To minimize side effects of overwhelming cytokine secretion in the patients, premedication with gl[u]cocorticoids like dexamethasone was established successfully in clinics." DTX-335 at 6, 17, 19 n.7 (citing to the Huhn Reference); BTr. at 235:17–237:18 (Soiffer).

52. This conclusion contradicts the "totally unknown" premise of the Asserted Patents. *Compare* FoF ¶ 51, DTX-335 at 6 (citing the Huhn Reference for the proposition that premedication with glucocoritcoids "like dexamethasone was established successfully in clinics") *with* '421 patent at 2:13-17 ("However, in the state of the art an administration of glucocorticoids in connection with the stimulation of the immune system of a patient by antibody therapies . . . is totally unknown.").

2. The EMA Report

53. The Trion Report data was submitted to the European Medicines Agency ("EMA") with the regulatory application for Removab. JTr. at 544:13-18 (Heiss) (admitting he was aware

EMA relied upon data from Trion); JTr. at 504:7-15 (Oleksowicz) (confirming that Trion data was provided to EMA); BTr. at 65:4-6 (Marasco).[4]

54. On May 12, 2009, the EMA released an "Assessment Report for Removab" ("the EMA Report") related to the approval of Removab for use in Europe. DTX-201 (EMA Report); BTr. at 64:1-12 (Marasco).

55. The EMA Report is a request for approval of an indication for Removab for "intraperitoneal treatment of malignant ascites in patients with epithelial cancers where no standard therapy is available or no longer feasible." DTX201.0003.

56. The EMA Report does not reflect an application for approval of Removab or any other bispecific antibody in conjunction with a glucocorticoid regimen. BTr. at 94:11–95:11 (Marasco) ("-- I don't see evidence that [Fresenius] asked for glucocorticoid as part of the administration."); BTr. at 161:20–162:6, 162:18-21 (Lindhofer).

57. The EMA Report reached the conclusion that "[d]examethasone dose-dependently and markedly inhibited Removab-induced cytokine release and granzyme B release[,]" that "[Removab]-induced tumour cell killing was inhibited by dexamethasone at all tested concentrations in conditions of a low [Removab] concentration[,]" and that "[h]ydrocortisone showed weaker inhibition of cytokine and granzyme B release and had no effect on [Removab]-induced tumor cell killing." DTX-201 at 13 (section titled "Pharmacodynamic drug interactions"); JTr. at 544:13–545:16 (Heiss); BTr. at 64:14–65:3 (Marasco). As Dr. Oleksowicz explained, "low" Removab concentration "is synonymous

[4] Lindis has waived any hearsay objections to testimony that the Trion Report was provided to the EMA because it did not "lodge a contemporaneous objection." *Leonard v. Stemtech Intl. Inc.*, 834 F.3d 376, 401 (3d Cir. 2016).

with a concentration in a patient that has had the [Removab] infused into their peritoneum" and "would be consistent with what the patient would see." JTr. at 536:7-17.

58. The EMA's recommendation for treatment of "cytokine release related symptoms" associated with Removab omits glucocorticoid pretreatment, reciting that "[o]ther or additional standard pre-medication with analgesic/antipyretic/nonsteroidal antiphlogistic medicinal products is recommended." DTX-201 at 45.

59. The EMA Report "contradicted the findings of the Lindis patent in that it showed that dexamethasone did inhibit the killing activity, the tumor cell killing activity of catumaxomab." BTr. at 64:14–65:3 (Marasco); *see also* BTr. at 65:7–66:3 (Marasco). Dr. Oleksowicz, Lindis's expert, stated that "evidently" the conclusions of the specification and the EMA Report were "the opposite." JTr. at 523:16–524:9.

60. In particular, the EMA Report contradicts the surprising finding of the Asserted Patents. *Compare* FoF ¶ 57, DTX-201 at 13 ("[D]examethasone dose-dependently and markedly inhibited Removab-induced cytokine release and granzyme B release[,]" that "[Removab]-induced tumour cell killing was inhibited by dexamethasone at all tested concentrations in conditions of a low [Removab] concentration.)" *with* '421 patent at 3:27-35 ("This novel indication of glucocorticoids . . . is based on the surprising finding that the combination of immunostimulating antibodies of defined specificity together with glucocorticoids results in a reduction of the non-specific release of cytokine by immunological cells without the action of the immunostimulating antibodies . . . being impaired.").

61. Because the EMA Report contradicts the surprising finding, a POSA would find that the "inventors were not in possession of the full scope of the claimed method." BTr. at 77:8-11, 82:10–85:10, 113:11–114:15 (Marasco).

62. Dr. Lindhofer knew of the EMA Report. On February 8, 2011, Dr. Lindhofer submitted the EMA Report to the Patent Office for a separate, unrelated patent application (the "'218 Application"). DTX435 at 11-62 (Exhibit K); BTr. at 32:14–33:16 (Stoll). Dr. Lindhofer submitted the EMA Report for that application because it was "helpful." BTr. at 162:22–164:23 (Lindhofer).

3. The Huhn Reference

63. The Huhn Reference is a clinical study that successfully used glucocorticoid premedication to decrease side effects caused by cytokine release. FoF ¶ 42.

64. Huhn is § 102(b) prior art. D.I. 287-1 ¶ 49.

65. The Huhn Reference contradicts the "totally unknown" premise from the Asserted Patents. *See* FoF ¶ 31 ("[A]n administration of glucocorticoids in connection with the stimulation of the immune system of a patient by antibody therapies . . . is totally unknown.").

66. Because of the Huhn Reference, a POSA would have been motivated to premedicate with glucocorticoids before administering bispecific antibodies and would have reasonably expected success. JTr. at 1188:1–1190:6, 1192:22–1193:2 (Soiffer).

4. The Rose Reference

67. The Rose reference ("Rose"), titled "Glucocorticoids and rituximab in vitro: synergistic direct antiproliferative and apoptotic effects," was first published in 2002, more than a year before the earliest priority date of the Asserted Patents. D.I. 287-1 ¶ 67.

68. The Rose reference describes laboratory or in vitro studies of the impact of glucocorticoids on tumor growth when used in conjunction with Rituxan. DTX066.001; BTr. at 150: 3-5 (Lindhofer); BTr. at 239:17-20 (Soiffer).

69. Unlike the Huhn Reference, Rose does not describe treatment of patients or reducing cytokine release-related side effects. BTr. at 239:1–240:19 (Soiffer).

70. Rose is § 102(b) prior art. D.I. 287-1 ¶ 68.

71. Dr. Lindhofer disclosed Rose to the patent examiner (or "examiner") in connection to prosecution of the Asserted Patents. BTr. at 149:23–150:1 (Lindhofer).

72. Rose was not cited by the patent examiner during prosecution of the Asserted Patents. D.I. 287-1 ¶ 69.

5. The Herbelin Reference

73. The Herbelin Reference is disclosed in the specification of the Asserted Patents. '421 Patent at 2:8-13.

74. The specification of the Asserted Patents notes that the Herbelin Reference "report[s] an improvement in acute immunosuppression therapy with the [monospecific] antibody OKT3 with prior administration of glucocorticoids by reason of the reduction, caused by said glucocorticoids." *Id.*; BTr. at 253:19–254:9 (Soiffer).

75. The Herbelin Reference does not contradict the totally unknown premise because it did not administer "glucocorticoids in connection with the stimulation of the immune system of a patient by antibody therapies." *See* '421 Patent at 2:8-17.

F. Duties Before the PTO

76. As a named inventor of the Asserted Patents, Dr. Lindhofer had duties of candor, good faith, and disclosure under Rule 56. 37 C.F.R. 1.56(c); DTX-511 at 424-25 (Manual of Patent Examining Procedure ("MPEP") § 2001); BTr. at 36:8-15 (Stoll).

77. The duty of candor and good faith requires that, during prosecution, an inventor seeking a patent (an Applicant) must provide known material information, be truthful and prosecute in good faith, transparently and comprehensively correct mistakes, make sure the examiner understands the invention, and not steer the examiner incorrectly. BTr. at 29:3-9 (Stoll); 37 C.F.R. 1.56; DTX-511 at 424 (MPEP § 2001).

78. Applicants have information to which an examiner does not have access, including information on common practices in industry, testing data, submissions to regulatory authorities (e.g., FDA submissions), and information from co-pending applications. BTr. at 29:17–30:2 (Stoll); DTX-511 at 425-30 (MPEP § 2001.04-06); 37 C.F.R. 1.56. Material information is not limited to prior art. BTr. at 31:24–32:3 (Stoll); DTX-511 at 425-30 (MPEP § 2001.04-06).

G. The Patent Application Process

79. Two weeks after Dr. Lindhofer signed the Trion Report, he filed the priority patent application of the Asserted Patents. JTX001 at 1:7-8; JTr. at 221:9-15 (Lindhofer); JTX104 ('421 Patent File History) at 1014-15, 1017; JTX105 ('158 Patent File History) at 9032-33, 9035.

80. On October 26, 2007, Dr. Lindhofer filed the application that led to the '421 Patent. JTX001 at 1. In July 2008, Dr. Lindhofer filed his oath for this patent application. JTX104 at 780-82; BTr. at 36:22–37:5, 37:20-24 (Stoll).

81. A month after Dr. Lindhofer disclosed the EMA Report in connection with the '218 Application (FoF ¶ 62), Applicants argued in a March 9, 2011 Amendment during prosecution of the '421 Patent that the "surprising finding" is a "key advantage" of the claimed invention: "[o]ne skilled in the art would predict that immunosuppressive glucocorticoids will impair the ability of immunostimulating antibodies to kill tumor cells, the opposite of what is claimed in Applicants' instant invention." JTX104 at 536; BTr. at 56:20–57:8, 57:2–60:20 (Marasco).

82. In a November 1, 2011 Amendment, Applicants further emphasized the "surprising finding" to the Patent Office: "[t]he combination of the cited references does not provide guidance or predictability on how a glucocorticoid (which is immunosuppressive) can be

used together with a bispecific immunostimulating antibody to reduce the non-specific release of cytokine without impairing the ability of the bispecific immunostimulatory antibody to recruit and activate various immune cells to destroy tumor cells." JTX104 at 480; BTr. at 57:21–60:20 (Marasco).

83. The arguments made during prosecution of the '421 Patent were contradicted by the Trion Report and EMA Report. BTr. at 63:12-23 (Marasco) ("[T]he overall invention is that you can use glucocorticoids without impairing the cytotoxic activity of the antibodies. . . and that is not what this Trion report says; it says just the opposite."), 65:12-66:15 (Marasco), 240:22-241:7 (Soiffer).

84. On December 9, 2013, the examiner issued a Notice of Allowance for the '421 Patent, which explains in the "Reasons for Allowance" that the examiner relied on the Applicants' representations to allow the claims. JTX104 at 453 ("Given the fact that glucocorticoid was known in the prior art to be immunosuppressive, it would have not been obvious to one [sic] ordinary skill in the art to have treated cancer patients with a glucocorticoid immediately before, concurrently, or immediately after treatment of the patients with a bispecific, trifunctional, immunostimulating antibody."); BTr. at 58:21–60:5 (Marasco) ("[T]he basis of allowance that it was a surprising finding because of the prior history in the art.").

85. After allowance, on March 3, 2014, the Applicants submitted an Information Disclosure Statement ("IDS") with twenty references but not the Trion Report, the EMA Report, or the Huhn Reference. JTX104 at 439-442.

86. On April 29, 2014, the '421 Patent issued. JTX001 at 1.

87. On April 7, 2014, Dr. Lindhofer filed the application that led to the '158 Patent. JTX002-001. Dr. Lindhofer filed his oath for this patent application in April 2014 and again in April 2015. JTX105 at 8895-98, 9116-18; BTr. at 38:3-7, 38:23–39:2 (Stoll).

88. The oaths declared that all statements were believed to be true, and recognized that "willful false statements may jeopardize the validity of the application or any patent issued thereon." JTX104 at 780-82; JTX105 at 8897-98, 9116-18; BTr. at 36:22–37:5, 37:20-24, 38:3-7, 38:23–39:2 (Stoll).

89. Dr. Lindhofer's oaths acknowledged his "duty to disclose material information," which is information that "is inconsistent with a position the applicant takes in opposing an argument of unpatentability relied on by the office, or asserting an argument of patentability." *Id.*; BTr. at 37:6-12, 38:8-13 (Stoll).

90. During prosecution of the '158 Patent, Applicants argued in a January 29, 2018 Amendment that the claims are not obvious because the prior art "teaches away" from the invention, alleging that that "the presently claimed invention goes against the prior art teaching that glucocorticoids, which are potent immunosuppressive drugs, should be generally withheld from cancer patients receiving immunotherapy and, in doing so, solves a major problem in immunotherapy." JTX105 at 8084-85; BTr. at 240:22–241:20 (Soiffer), 60:8-61:13 (Marasco).

91. This "teaching away" argument is directly contradicted by the Trion Report and the Huhn Reference, which showed glucocorticoid premedication with immunostimulatory antibodies such as Rituxan and Herceptin was established successfully and a common tool in the clinic. BTr. at 240:24–241:11 (Soiffer) (Applicants argued teaching away and a solution to "a major problem in immunotherapy, but that's not what Huhn showed."); *see*

also DTX-199 at 2, 4-5; DTX335 at 6, 17, 19 n.7; BTr. at 237:22–238:7 (Soiffer); JTr. at 1191:2–1193:2 (Soiffer), 149:13-20 (Lindhofer).

92. On April 6, 2018, based on Applicants' arguments, the examiner withdrew the obviousness objection and allowed the claims of the '158 Patent. JTX105 at 100-08. On September 11, 2018, the '158 Patent issued. JTX002 at 1.

93. Dr. Lindhofer withheld the Trion Report from the Patent Office. BTr. at 35:5-15 (Stoll), 136:7-15, 188:9-22 (Lindhofer). Dr. Lindhofer also never submitted the Huhn Reference to the Patent Office despite it being cited in the Trion Report. BTr. at 238:8-13 (Soiffer).

94. Dr. Lindhofer never submitted the EMA Report to the Patent Office during the prosecution of the applications that led to the Asserted Patents. BTr. at 35:5-7 (Stoll).

95. The single most reasonable inference is that Dr. Lindhofer knew the Trion Report was material to the Asserted Patent because the Trion Report was meant to be a "more reliable" version of the "quick and dirty experiments," which was sent to the PTO and because Dr. Lindhofer found the Trion Report reliable enough to submit it to the EMA. FoF ¶¶ 43, 44, 53.

96. The single most reasonable inference is that Dr. Lindhofer knew the EMA Report was material to the Asserted Patent because it incorporated the Trion Report data to reach a conclusion that contradicted the surprising finding and also because Dr. Lindhofer found the EMA Report reliable enough to submit it to the Patent Office for a different patent application. FoF ¶¶ 53, 59, 62.

II. DISCUSSION

This Discussion has three Sections: (A) Inequitable Conduct Legal Standard, (B) Amgen Demonstrates by a Preponderance of the Evidence That the Withheld References are Material, and

(C) Amgen Demonstrates by Clear and Convincing Evidence That Dr. Lindhofer Had an Intent to Deceive in Withholding References from the Patent Office.

A. Inequitable Conduct Legal Standard

"Inequitable conduct renders a patent unenforceable and is, therefore, an affirmative defense to an allegation of patent infringement." *Luv n' Care, Ltd. v. Laurain*, 98 F.4th 1081, 1096 (Fed. Cir. 2024); *see GS Cleantech Corp. v. Adkins Energy LLC*, 951 F.3d 1310, 1324 (Fed. Cir. 2020). "It is important to note that inequitable conduct is an equitable claim that is triable to the court, not to the jury." *Lipocine Inc. v. Clarus Therapeutics, Inc.*, No. 19-cv-622-WCB, 2020 WL 4794576, at *7 (D. Del. Aug. 18, 2020). "Where there are overlapping factual issues that relate to a claim tried to a jury and a claim to be resolved by the court, the court must defer to the jury's finding on any overlapping factual issues." *Natera, Inc. v. ArcherDX, Inc.*, 690 F. Supp. 3d 437, 448 n.5 (D. Del. 2023). "Unlike validity defenses, which are claim specific, inequitable conduct regarding a single claim renders the entire patent unenforceable." *Regeneron Pharms., Inc. v. Merus N.V.*, 864 F.3d 1343, 1350 (Fed. Cir. 2017).

"To prove inequitable conduct, a party must show that the patentee withheld material information from the PTO, and did so with the specific intent to deceive the PTO." *Luv n' Care*, 98 F.4th at 1096-97. "Both requirements must be proven by clear and convincing evidence. Moreover, deceptive intent must be the single most reasonable inference based on the evidence." *Luv n' Care*, 98 F.4th at 1097 (citing *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011) (en banc)).

"The first step in an inequitable conduct inquiry is determining whether the patentee failed to disclose but-for material information to the PTO." *Regeneron Pharms.*, 864 F.3d at 1351. "To prove the element of materiality, a party claiming inequitable conduct ordinarily must show that the patentee 'withheld or misrepresented information that, in the absence of the withholding or

misrepresentation, would have prevented a patent claim from issuing.'" *Ohio Willow Wood Co. v. Alps S., LLC*, 813 F.3d 1350, 1357 (Fed. Cir. 2016) (quoting *Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1345 (Fed. Cir. 2013)).[5] "In determining the materiality of a reference [or information], the court applies the preponderance of the evidence standard and gives claims their broadest reasonable construction." *Regeneron Pharms.*, 864 F.3d at 1350. "[T]he analysis of this *but-for* materiality requirement is from the perspective of the PTO." *Ohio Willow Wood*, 735 F.3d at 1345 (emphasis in original); *see Regeneron Pharms.*, 864 F.3d at 1351 ("Determining but-for materiality requires that the court place itself in the shoes of a patent examiner and determine whether, had the reference(s) been before the examiner at the time, the claims of the patent would have still issued.").

A reference is not but-for material, however, if it is merely cumulative. *Regeneron Pharms.*, 864 F.3d at 1350; *see also Dig. Control Inc. v. Charles Mach. Works,* 437 F.3d 1309, 1319 (Fed. Cir. 2006) ("However, a withheld otherwise material prior art reference is *not* material for the purposes of inequitable conduct if it is merely cumulative to that information considered by the examiner." (emphasis in original)). "A reference is cumulative when it teaches no more than what a reasonable examiner would consider to be taught by the prior art already before the PTO." *Luv n' Care, Ltd.* 98 F.4th at 1098 (quoting *Regeneron Pharms.*, 864 F.3d at 1350).

However, a party does not have to prove but-for materiality if the party can show affirmative egregious misconduct. *Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1334 (Fed. Cir. 2012) (citing *Therasense*, 649 F.3d at 1292). "'[I]n cases of affirmative egregious

[5] "In setting forth its test for materiality, *Therasense* contemplated statements made to the PTO during initial prosecution of a patent. But statements critical to the 'survival of the patent'—even though they do not, strictly speaking, bear on patentability—also can be material within the meaning of *Therasense*." *In re Rembrandt Techs. LP Pat. Litig.*, 899 F.3d 1254, 1273 n.** (Fed. Cir. 2018) (citation omitted).

misconduct,' materiality is established per se, without need to prove its impact on the PTO's patentability determination." *Luv n' Care*, 98 F.4th at 1097 (quoting *Therasense*, 649 F.3d at 1292); *see, e.g.*, *Intellect Wireless, Inc. v. HTC Corp.*, 732 F.3d 1339, 1342 (Fed. Cir. 2013); *Apotex Inc. v. UCB, Inc.*, 763 F.3d 1354, 1362 (Fed. Cir. 2014) (dicta); *Baxalta Inc. v. Bayer Healthcare LLC*, No. 17-cv-1316-RGA-SRF, 2020 WL 5445375, at *8 (D. Del. July 13, 2020). Accordingly, if the movant argues that materiality is established via "affirmative egregious misconduct," then the fact finder should "ma[k]e findings as to affirmative egregious misconduct and per se materiality." *Luv n' Care*, 98 F.4th at 1097.

In addition to proving the materiality of withheld references, "the accused infringer must prove that the patentee acted with the specific intent to deceive the PTO." *Regeneron Pharms.*, 864 F.3d 1343, 1350 (Fed. Cir. 2017) (quoting *Therasense*, 649 F.3d at 1290). "To satisfy the intent requirement, the accused infringer must prove by clear and convincing evidence that the applicant knew of the reference, knew that it was material, and made a deliberate decision to withhold it. Inequitable conduct requires clear and convincing evidence of a specific intent to deceive the PTO and that the specific intent to deceive must be the single most reasonable inference able to be drawn from the evidence." *Belcher Pharms., LLC v. Hospira, Inc.*, 11 F.4th 1345, 1353 (Fed. Cir. 2021) (cleaned up).

"[A] court must weigh the evidence of intent to deceive independent of its analysis of materiality. Proving that the applicant knew of a reference, should have known of its materiality, and decided not to submit it to the PTO does not prove specific intent to deceive." *Id.* at 1350-51 (quoting *Therasense*, 649 F.3d at 1290). "In a case involving nondisclosure of information, clear and convincing evidence must show that the applicant *made a deliberate decision* to withhold a

known material reference." *Id.* at 1351 (emphases in original) (quoting *Therasense*, 649 F.3d at 1290).

Direct evidence of intent is not, however, required. A court may infer intent from circumstantial evidence. *Id.* at 1351 (citing *Therasense*, 649 F.3d at 1290). "Specific intent to commit acts constituting inequitable conduct may be inferred from indirect and circumstantial evidence." *Ohio Willow Wood*, 813 F.3d at 1358. The "purposeful omission or misrepresentation of key teachings of prior art references may . . . be indicative of a specific intent to deceive the PTO." *Luv n' Care*, 98 F.4th at 1099.

"Acts which are not 'per se unreasonable when considered in isolation' may still demonstrate 'repeated attempts to avoid playing fair and square with the patent system' and, collectively, support a finding of deceptive intent." *Id.* at 1098 (quoting *Nilssen v. Osram Sylvania, Inc.*, 504 F.3d 1223 (Fed. Cir. 2007)). "Because an intent to deceive the PTO can be inferred from a person's 'pattern of lack of candor,' a district court must consider the person's multiple acts of misconduct '[i]n the aggregate.'" *Id.* at 1098 (alteration in original) (quoting *Apotex*, 763 F.3d 1354). Thus, "[w]hen a person having a duty of candor and good faith has engaged in serial misconduct during the prosecution of the same or related patents, it is not enough for a court to consider each individual act of misconduct without also considering the collective whole." *Luv n' Care*, 98 F.4th at 1098.

With respect to inequitable conduct determinations, the role of expert testimony is limited. *See W. R. Grace & Co.-Conn. v. Elysium Health, Inc.*, No. 20-cv-1098-GBW, D.I. 291 at 4-7 (D. Del. Aug. 3, 2023) (surveying Court's caselaw on expert testimony in patent cases, including inequitable conduct); *Persawvere, Inc. v. Milwaukee Elec. Tool Corp.*, No. 21-cv-400-GBW, 2023 WL 8019085, at *14-15 (D. Del. Nov. 20, 2023). Generally, "experts in patent cases may not

opine on whether a party engaged in inequitable conduct, discuss whether certain information was material to a pending patent application, or otherwise provide legal conclusions on 'substantive issues of patent law.'" *Elysium Health*, No. 20-cv-1098-GBW, D.I. 291 at 6 (quoting *Brigham & Women's Hosp. Inc. v. Teva Pharms. USA, Inc.*, No. 8-cv-464, 2010 WL 3907490 (D. Del. Sept. 21, 2010)). That is not to say, however, that expert testimony is per se irrelevant to the issue of inequitable conduct.[6]

B. Amgen Demonstrates by a Preponderance of the Evidence That the Withheld References are Material

"The first step in an inequitable conduct inquiry is determining whether the patentee failed to disclose but-for material information to the PTO." *Regeneron Pharms.*, 864 F.3d at 1351. Here, Amgen asserts that the Trion Report, the EMA Report, and the Huhn Reference (together, the "Withheld References") are per se material because Lindis allegedly engaged in affirmative egregious conduct. In the alternative, Amgen contends 1) that the Withheld References are but-for material for obviousness and 2) that the Trion Report and EMA Report are but-for material for written description and enablement. Lindis counters that the jury has already decided the issue of materiality. Lindis further claims Amgen waived any obvious argument and the right to raise the Huhn Reference. Lastly, Lindis disagrees that the Withheld References are either per se or but-for material. The Court will address each argument in turn.

1. Amgen's Inequitable Conduct Claim Has Not Already Been Decided by the Jury

As an initial matter, Lindis contends that the Court should deny Amgen's inequitable conduct claim because the "jury has already determined that the Trion and EMA Reports and the

[6] *See, e.g.*, *Persawvere*, 2023 WL 8019085, at *14-15; *EIS, Inc. v. IntiHealth Ger GmbH*, No. CV 19-1227-GBW, 2023 WL 6799332, at *6 (D. Del. Aug. 23, 2023); *Regeneron Pharms.*, 864 F.3d at 1351-56.

Huhn Reference are not material to the Asserted Patents' validity." D.I. 353 at 9. Contrary to Amgen's assertions, Lindis claims that the Court and the jury determine materiality under the same clear and convincing evidence standard. *Id.* at 10. Lindis is incorrect. The Federal Circuit has made clear that "[u]nlike the clear and convincing evidence standard for invalidating a patent in the district court under 35 U.S.C. §§ 102 and 103, the standard for establishing but-for materiality in the inequitable conduct context only requires a preponderance of the evidence." *Aventis*, 675 F.3d at 1334 (citing *Therasense*, 649 F.3d at 1291).[7]

Lindis attempts to distinguish this language by citing *Therasense*, but Lindis misreads that case, which states: "In a case involving nondisclosure of information, clear and convincing evidence must show that the applicant made a deliberate decision to withhold a known material reference." *Therasense*, 649 F.3d at 1290 (emphasis omitted). The quoted passage refers to the rule that a party must show that the applicant deliberately withheld a reference by clear and convincing evidence. The test for but-for materiality, however, is preponderance of the evidence. *See Aventis*, 675 F.3d at 1334 (citing *Therasense*, 649 F.3d at 1291). Thus, the jury did not already decide Amgen's inequitable conduct claim in this action.

2. Amgen Did Not Waive the Right to Raise the Huhn Reference and Any Obviousness Arguments

Lindis contends that Amgen "waived the right to raise Huhn or any obviousness-type inequitable conduct theories." D.I. 353 at 12. Lindis bases this contention on the allegation that "Amgen narrowed its inequitable conduct theories in the" Issues of Fact from the jury trial's Pre-

[7] In support of its argument, Lindis also cites to *Aventis*. However, Lindis quotes a passage that does not appear in the opinion. *Compare* D.I. 353 at 10 ("[t]o prevail on the defense of inequitable conduct, the accused infringer must prove . . . . both elements—intent and materiality—by clear and convincing evidence." (emphasis removed)) *with Aventis*, 675 F.3d at 1334 ("To prevail on an inequitable conduct defense, a defendant must establish both the materiality of the withheld reference and the applicant's intent to deceive the PTO.").

Trial Order by not including any reference to the Huhn Reference. *Id.* Lindis' contention is incorrect. When the Court issued its Supplemental Scheduling Order for the inequitable conduct bench trial, the Court ordered the parties to submit trial briefs that "should set forth a summary of its position on inequitable conduct and an explanation of the factual and legal bases for its position." D.I. 344 ¶ 2. Moreover, this order came after the parties submitted a Joint Post-Trial Status Report after the jury trial where they agreed, in advance of the bench trial, to "submit a pre-trial order, outlining the issues of fact, issues of law, evidence and witnesses the parties intend to present." D.I. 342 at 1. Clearly, then, the parties had agreed to submit new issues and law and fact separate from the pre-trial order governing the jury trial. Thus, any exclusion from the jury pre-trial order, if any, did not constitute waiver for the inequitable conduct bench trial.

3. Amgen Does Not Demonstrate that Dr. Lindhofer Engaged in Affirmative Egregious Misconduct

Amgen asserts that the Withheld References are per se material because Dr. Lindhofer engaged in affirmative egregious conduct. D.I. 345 at 14. Amgen bases its affirmative egregious conduct claim on two reasons. First, Dr. Lindhofer submitted, under oath, the patent specification, which says that the claimed invention is based on the allegedly false "surprising finding" and "totally unknown" premise. *Id.* Second, Amgen asserts that Dr. Lindhofer had a "repeated pattern of making misrepresentations to the Patent Office about the very premises of the supposed invention" by continuing to assert the allegedly false "surprising finding" and "totally unknown" premise. *Id.*

However, Amgen's reasons fail to demonstrate affirmative egregious conduct. Amgen does not cite to any case that holds that Dr. Lindhofer's actions amount to affirmative egregious misconduct. Instead, Amgen cites *Therasense*, which holds that the filing of an unmistakably false affidavit is an affirmative act of misconduct. 649 F.3d at 1292; *see also Rohm & Haas Co. v.*

Crystal Chem. Co., 722 F.2d 1556, 1571 (Fed. Cir. 1983) ("[T]here is no room to argue that submission of false affidavits is not material"); *Refac Int'l, Ltd. v. Lotus Dev. Corp.*, 81 F.3d 1576, 1583 (Fed. Cir. 1996) (finding the intentional omission of declarant's employment with inventor's company rendered the affidavit false and that "[a]ffidavits are inherently material").

The cited language from *Therasense*, however, is not applicable to the instant case. The type of false affidavit that courts consider affirmative egregious conduct is not present in this case. For example, the Federal Circuit in *Rohm & Haas Co. v. Crystal Chem. Co.* found that the plaintiff had submitted false affidavits by "falsifying" data and not revealing "the differing experimental conditions that lay behind [a] data comparison." 722 F.2d 1556, 1570 (Fed. Cir. 1983). In the instant action, however, Amgen does not allege that Lindis falsified any data submitted to the PTO or failed to reveal any experimental conditions. Instead, Amgen merely asserts that Lindis failed to disclose other references that contradicted what Lindis submitted to the PTO. This type of nondisclosure is exactly what the Federal Circuit has said is not affirmative egregious conduct. *See Therasense*, 649 F.3d at 1292-93 ("Because neither mere nondisclosure of prior art references to the PTO nor failure to mention prior art references in an affidavit constitutes affirmative egregious misconduct, claims of inequitable conduct that are based on such omissions require proof of but-for materiality.").

Indeed, Amgen's theory for affirmative egregious conduct would collapse the standard into but-for materiality. If a false affidavit that satisfied affirmative egregious conduct were merely any affidavit that could be proven false with different data or references, then it's the same test as requiring a showing "that the patentee 'withheld or misrepresented information that, in the absence of the withholding or misrepresentation, would have prevented a patent claim from issuing.'" *Ohio Willow Wood*, 813 F.3d at 1357 (quoting *Ohio Willow Wood* 735 F.3d at 1345). Amgen has not

demonstrated affirmative egregious conduct and, thus, the Withheld References are not per se material.

4. Amgen Demonstrates that the Withheld References Are But-For Material Due to Obviousness

The Withheld References are but-for material for purposes of obviousness because, if the PTO had those references, it would have prevented the Asserted Patents from issuing for obviousness. 35 U.S.C § 103, which governs obviousness, states that "[a] patent for a claimed invention may not be obtained . . . if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious . . . to a person having ordinary skill in the art." Section 2141 of the MPEP instructs patent examiners to follow the § 103 obviousness standard. Under the standard outlined in Section 2141 of the MPEP, each of the Withheld References, both individually and in combination, would have prevented the patent examiner from issuing the Asserted Patents.

First, if the patent examiner had the Trion Report, the examiner would not have issued the patent claims due to obviousness. The patent examiner explained the reasons for issuing the '421 patent in the Reasons for Allowance: "Given the fact that glucocorticoid was known in the prior art to be immunosuppressive, it would have not been obvious to one [sic] ordinary skill in the art to have treated cancer patients with a glucocorticoid immediately before, concurrently, or immediately after treatment of the patients with a bispecific, trifunctional, immunostimulating antibody." FoF ¶ 84. This conclusion from the PTO came after the Applicants submitted multiple amendments that emphasized the surprising finding premise. FoF ¶¶ 81-82.

The Trion Report, however, contradicts the surprising finding. FoF ¶¶ 48-49. Because the Trion Report data was "more reliable" (FoF ¶ 44) than the "quick and dirty" experiments used as the basis for the surprising finding (FoF ¶ 43), the patent examiner thus would not have believed

the premise of the surprising finding. Therefore, without the basis of the surprising finding, the patent examiner would not have issued the patent due to obviousness, meaning the Trion Report is but-for material.

Second, if the patent examiner had the EMA Report, the examiner would not have issued the patent claims due to obviousness. The EMA Report incorporates the conclusion of the Trion Report that contradicts the surprising finding premise of the Asserted Patents. *See* FoF ¶¶ 53, 59. Thus, for the same reason as the Trion Report, the EMA Report would have precluded the patent examiner from issuing the Asserted Patents due to obviousness, making it but-for material.

Third, if the patent examiner had the Huhn Reference, the examiner would have rejected the patent claims due to obviousness. The conclusion of the Huhn Reference contradicts the totally unknown premise of the specification of the Asserted Patents. FoF ¶ 65. Without the totally unknown premise, the patent examiner would have found the Asserted Patent obvious because the "differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious . . . to a person having ordinary skill in the art." 35 U.S.C. § 103. *See* FoF ¶ 66 ("[A] person of ordinary skill in the art would have been motivated to premedicate with glucocorticoids before administering bispecific antibodies and would have reasonably expected success."). Moreover, because the Trion Report incorporates the conclusion of the Huhn Reference, the patent examiner would not have allowed the Asserted Patent claims to issue for obviousness if it had the Trion Report for the same reason. FoF ¶¶ 51, 52.

Finally, a combination of the Withheld References is material because the patent examiner would not have issued the claims for obviousness if the examiner had all the Withheld References. *See Regeneron Pharms.*, 864 F.3d at 1354 (holding that the withheld references were but-for material in combination because they taught, in combination, one of skill in the art the method

disclosed in the asserted patent). The Trion Report and the EMA Report both contradict the surprising finding premise, which together would have prevented the patent examiner from withdrawing the obviousness objection. *See* FoF ¶¶ 48-49, 53, 59. This conclusion is bolstered by the fact that the data in the Trion Report and EMA Report were "more reliable" than the data from the "quick and dirty experiment" that lifted the patent examiner's obvious objection. *See* FoF ¶¶ 43, 44, 84. Further, the Trion Report and Huhn Reference both contradict the totally unknown premise. *See* FoF ¶¶ 52, 65. Thus, if the patent examiner had both the Trion Report and the Huhn Reference, the patent examiner would have rejected the Asserted Patent for obviousness. *See* FoF ¶ 66.

Lindis contends that the Huhn Reference is not material for three reasons (D.I. 353 at 16-17),[8] but each of these reasons fail. First, Lindis claims that the Asserted Patents state that "the administration of glucocorticoids with *trifunctional antibodies* was 'totally unknown' at the time, not monoclonal antibodies." *Id.* (emphasis in original). Lindis further alleges that the totally unknown premise in the specification of the Asserted Patents is consistent with the Huhn Reference because it makes clear that "pretreatment with glucocorticoids for *monoclonal* antibody administration was known." *Id.* (emphasis in original). However, Lindis is wrong for claiming that the Asserted Patents state that monoclonal antibody administration was known. *Id.* (emphasis in original). In reality, the totally unknown premise does not differentiate among different types of antibodies: "in the state of the art an administration of glucocorticoids in connection with the

[8] Lindis also makes an argument that the Huhn Reference is not material because it does not meet a requirement of the "surprising finding" premise. D.I. 353 at 17. The Court understands that Amgen no longer makes the argument that the Huhn Reference demonstrates the "surprising finding" to be false. *See* Amgen CoL ¶ 5 ("The 'totally unknown' premise was false, as demonstrated by the Trion Report and the paper it cited, Huhn. . . . And the 'surprising finding' premise was also false, as demonstrated by the Trion Report and the EMA Assessment.").

stimulation of the immune system of a patient by antibody therapies, for example with trifunctional antibodies (traB), is totally unknown." '421 Patent at 2:13-17. Further, the Asserted Patents method includes administration of both monoclonal antibodies and trifunctional antibodies. *See* '421 Patent at 2:48-50 ("The immunostimulating antibody of the invention can be a monoclonal antibody [or] trifunctional antibody[.]"). Thus, the Asserted Patent does not make a distinction between monoclonal and trifunctional antibodies, meaning that the totally unknown premise includes monoclonal antibodies. As a result, the totally unknown premise is not consistent with the Huhn Reference.

Second, Lindis contends that the Huhn Reference is not material because it is directed towards "a monospecific antibody and not a bispecific antibody." D.I. 353 at 17. Again, this contention is contradicted by the specification of the Asserted Patents. The specification of the Asserted Patents explains that a bispecific antibody can be a trifunctional antibody ('421 Patent at 5:14-15), and, as explained above, the specification states that administration can include monoclonal antibodies or trifunctional antibodies ('421 Patent at 2: 48-50).

Third, Lindis asserts that the Huhn Reference is cumulative of the Rose reference because they both address use of glucocorticoids and antibodies on tumor growth. D.I. 353 at 17; *see* FoF ¶ 68. Because Dr. Lindhofer submitted Rose to the PTO (FoF ¶ 71), Lindis claims that the Huhn Reference is cumulative because it "teaches no more than what a reasonable examiner would consider to be taught by [Rose,] the prior art already before the PTO." *Luv n' Care, Ltd.* 98 F.4th at 1098 (quoting *Regeneron Pharms.*, 864 F.3d at 1350). However, the Huhn Reference teaches the examiner a critical point that was not present in Rose. Namely, the Huhn Reference teaches that the use of glucocorticoid premedication decreases side effects caused by cytokine release. FoF ¶¶ 63, 69. This point is critical because the specification of the Asserted Patent recites that

"[t]he present invention provides methods and pharmaceutical compositions for reducing the non-specific release of a cytokine associated with a disease in a subject." '421 Patent at 2:29-31. Thus, because the Huhn Reference teaches more than Rose, it is not cumulative.[9]

Finally, Lindis claims that all the Withheld References are not but-for material because the claimed method works. D.I. 353 at 19. Lindis trumpets the fact that Amgen uses the claimed method as proof that the claimed method works and that the Withheld References are not material. However, Lindis applies the wrong legal standard. "Determining but-for materiality requires that the court place itself in the shoes of a patent examiner and determine whether, had the reference(s) been before the examiner at the time, the claims of the patent would have still issued." *Regeneron Pharms.*, 864 F.3d at 1351 (quoting *Therasense*, 649 F.3d at 1291-92). Because the Court must undergo the materiality inquiry from the perspective of the examiner who approved the claims, any facts from after the approval are not relevant.

5. Amgen Demonstrates that the Trion Report and the EMA Report Are But-For Material With Respect to Written Description But Not With Respect to Enablement

Amgen claims that the Trion Report and the EMA Report are but-for material because the PTO would not have issued the Asserted Patents claims for lack of written description and enablement if the patent examiner had the Trion Report and EMA Report. D.I. 345 at 17. According to Amgen, the patent examiner would have rejected the Asserted Patents claims 1) for lack of written description because the "inventors were not in possession of the full scope of the claimed method" and 2) for lack of enablement because "it would take undue experimentation" for a POSA to find a combination of glucocorticoid and antibody doses that can be used to practice

[9] Lindis' argument that the Huhn Reference is cumulative of the Herbelin Reference because the Herbelin Reference "was before the Examiner" (Lindis CoL ¶ 50) and "discloses the use of a monospecific antibody in conjunction with glucocorticoids" (Lindis CoL ¶ 49) also fails for the same reason that Rose teaches more than what the Herbelin Reference teaches. *See* FoF ¶¶ 65, 75.

the full scope of the Asserted Patents claims. Amgen FoF ¶ 66 (quoting BTr. at 74:23–76:17, 77:8-11, 16-19, 79:6–80:3, 82:10–85:10, 113:11–114:4, 114:8-15 (Marasco), 270:15–271:7 (Stoll)).

Sections 2163 and Section 2164 of the MPEP cover written description and enablement, respectively, and instruct patent examiners to follow 35 U.S.C. § 112(a): "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art." Written description is a separate requirement from enablement. *Ariad Pharm., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1340 (Fed. Cir. 2010) (en banc).

For a patent to satisfy the requirement of written description, the specification must convey with reasonable clarity to those skilled in the art that the inventor was in possession of the invention and demonstrates possession in the specification. *Biogen Int'l GmbH v. Mylan Pharms., Inc.*, 18 F.4th 1333, 1341-42 (Fed. Cir. 2021) (citing *Nuvo Pharm. (Ireland) Designated Activity Co. v. Dr. Reddy's Laboratories Inc.*, 923 F.3d 1368, 1377 (Fed. Cir. 2019)). Amgen claims that, if the PTO had the Trion Report and the EMA Report, the PTO would not have found that the Asserted Patents met this possession requirement because the reports contradict the patent specification. Amgen CoL ¶ 15. The Court agrees with Amgen. The Trion Report and EMA Report both show a POSA that the Asserted Patent inventor was not in possession of the claimed invention because the Trion Report and the EMA Report contradict the surprising finding. *See* FoF ¶¶ 50, 61. Thus, the patent examiner would have rejected the Asserted Patents for lack of written description if it had the Trion Report and EMA Report, both individually and in combination.

For enablement, Amgen asserts that the patent examiner would have rejected the Asserted Patents claims if it had the Trion Report and EMA Report because those reports demonstrate that

the different glucocorticoids can affect tumor cell killing differently, which is not what the Asserted Patents specification says. Amgen CoL ¶¶ 64, 65. Because of the difference between the reports and the Asserted Patents, Amgen contends that "it would take undue experimentation" for a POSA to find a combination of glucocorticoid and antibody doses that can be used to practice the full scope of the Asserted Claims. Amgen CoL ¶ 66. Amgen's argument puts the cart before the horse. While Amgen identifies what the Asserted Patents do not claim—i.e., that different glucocorticoids can affect tumor cell killing differently—Amgen never attempts to tie its undue experimentation argument to what the Asserted Patents do claim. In other words, Amgen does not show how the fact that different glucocorticoids performed differently does not enable the Asserted Patents claims. *See Amgen Inc. v. Sanofi*, 598 U.S. 594, 610 (2023) ("[T]he specification must enable the full scope of the invention as defined by its claims."). By failing to even address the claims, Amgen does not demonstrate that the patent examiner, if it had the Trion Report and EMA Report, would have rejected the Asserted Patents for lack of enablement.

C. Amgen Demonstrates by Clear and Convincing Evidence That Dr. Lindhofer Had an Intent to Deceive in Withholding References from the Patent Office

To prove specific intent for the purposes of an inequitable conduct claim, "the accused infringer must prove by clear and convincing evidence that the applicant (1) knew of the omitted reference, (2) knew that it was material, and (3) made a deliberate decision to withhold it." *HQ Specialty Pharma Corp. v. Fresenius Kabi USA, L.L.C.*, No. CV 21-1714 (MN), 2025 WL 961485, at *9 (D. Del. Mar. 31, 2025) (cleaned up) (citing *Therasense*, 649 F.3d at 1290.). "Because direct evidence of deceptive intent is rare, a district court may infer intent from indirect and circumstantial evidence."[10] *Therasense*, 649 F.3d at 1290. However, to meet the clear and

[10] Lindis erroneously asserts that specific "[i]ntent cannot be inferred." Lindis CoL ¶ 3. The full quote from the case that Lindis cites holds that "[a] court can no longer infer intent to deceive from

convincing evidence standard, the specific intent to deceive must be "the single most reasonable inference able to be drawn from the evidence." *Id.* (quoting *Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1366 (Fed. Cir. 2008)). What reasonable inferences may be drawn from the evidence is a factual finding. *Id.* (quoting *Star*, 537 F.3d at 1365).

Amgen makes the assertions that Dr. Lindhofer 1) knew of the Withheld References and 2) made a deliberate decision to withhold them from the PTO. Lindis does not dispute these assertions and, instead, only argues that Dr. Lindhofer believed that the Withheld References were not material. *See* Lindis CoL ¶70, 71, 75. As a result, the Court accepts that Dr. Lindhofer knew of the Withheld References and made a deliberate decision to withhold them from the PTO. *See* FoF ¶¶ 46, 47, 62, 93, 94. Thus, for determining specific intent, the only inquiry that remains is whether Amgen has proven by clear and convincing evidence that Dr. Lindhofer knew the Withheld References were material.

For the Trion Report, the single most reasonable inference is that Dr. Lindhofer knew the Trion Report was material. FoF ¶ 95. Dr. Lindhofer instructed scientists at his company, Trion, to create the Trion Report to verify the results of the "quick and dirty" experiments with "more reliable" data. FoF ¶ 44, 46. Thereafter, Dr. Lindhofer submitted the data from the "quick and dirty" experiments to the PTO, implying that Dr. Lindhofer believed the "quick and dirty" experiments were material. *See* FoF ¶43. Moreover, Dr. Lindhofer found the Trion Report reliable enough to submit it to the EMA. FoF ¶ 53. Thus, the facts that Dr. Lindhofer knew that the Trion Report contained more reliable data than the data he submitted to the PTO, and Dr. Lindhofer

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non-disclosure of a reference solely because that reference was known and material." *1st Media, LLC v. Elec. Arts, Inc.*, 694 F.3d 1367, 1372-73 (Fed. Cir. 2012) (citation omitted).

believed the Trion Report was reliable enough to submit it to the EMA together reasonably imply that Dr. Lindhofer knew the Trion Report was material.

Lindis does not proffer a credible explanation for nondisclosure of the Trion Report. Lindis contends that Dr. Lindhofer believed that "the data in the Trion Report is cumulative and consistent with the data and information disclosed in the specification of the Asserted Patents." Lindis CoL ¶ 57. If that were the case, however, it is unlikely that Dr. Lindhofer would not want to submit more reliable data to the PTO, especially since Dr. Lindhofer signed the Trion Report two weeks before submitting the priority application of the Asserted Patents. FoF ¶ 79; *see Semiconductor Energy Laboratory Co., Ltd. v. Samsung Elecs. Co., Ltd.*, 204 F.3d 1368, 1374 (Fed. Cir. 2000) (citation omitted) (holding that a "reference may be highly material when it discloses a more complete combination of relevant features"). The most reasonable inference from the facts is that Dr. Lindhofer submitted the "quick and dirty" experiments because he knew it confirmed the conclusion of the patent specification, but not the Trion Report because he thought it contradicted the patent specification. *See Bruno Indep. Living Aids, Inc. v. Acorn Mobility Services, Ltd.*, 394 F.3d 1348, 1354 (Fed. Cir. 2005) (finding intent to deceive because the plaintiff failed to "proffer[] a credible explanation for the nondisclosure, and an inference of deceptive intent may fairly be drawn in the absence of such an explanation"); *cf. Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1367 (Fed. Cir.2003) ("Intent to deceive cannot be inferred simply from the decision to withhold the reference where the reasons given for the withholding are plausible.").

With respect to the EMA Report, the single most reasonable inference is that Dr. Lindhofer knew the EMA Report was material. FoF ¶ 96. First, Dr. Lindhofer knew about the results of the Trion Report and knew they were material. *See* FoF ¶ 47. Second, Dr. Lindhofer knew the EMA Report incorporated the Trion Report. FoF ¶ 53. Third, Dr. Lindhofer found the EMA Report

accurate enough to submit it for a different patent application when he believed it was helpful to that patent application. FoF ¶ 62. Together, these facts lead to the reasonable conclusion that Dr. Lindhofer knew the EMA Report was material.

Again, Lindis fails to proffer a credible explanation for nondisclosure of the EMA Report. Lindis asserts that Dr. Lindhofer could not have had intent to deceive by withholding the EMA Report because "the EMA Report does not include a request for premedication with glucocorticoids, and thus does not cover a course of treatment claimed by the Asserted Patents." Lindis CoL ¶ 73 (emphasis omitted). However, Lindis provides no legal precedent that, for a reference to be material, it must "cover a course of treatment claimed by the Asserted Patents." Additionally, Lindis provides no evidence that this line of thinking was what Dr. Lindhofer actually thought when he withheld the EMA Report from the PTO for the Asserted Patents. In fact, Dr. Lindhofer's oath before the Patent Office reveals the opposite, in that Dr. Lindhofer was aware that he could not omit a reference simply because the purpose of the reference did not directly regard the course of treatments claimed by the Asserted Patents. FoF ¶ 89 (Dr. Lindhofer's "duty to disclose material information" includes information that "is inconsistent with a position the applicant takes in opposing an argument of unpatentability relied on by the office, or asserting an argument of patentability."). Given the weight of the facts suggesting Dr. Lindhofer's intent to deceive, Lindis' explanations are unconvincing.

An intent to deceive is the single most reasonable inference for why Dr. Lindhofer withheld the Trion Report and the EMA Report from the PTO. Accordingly, Amgen has shown that Dr. Lindhofer withheld the Trion Report and the EMA Report from the PTO with the specific intent to deceive the PTO.

On the other hand, Amgen does not show by clear and convincing evidence that Dr. Lindhofer knew the Huhn Reference was material. Although the patent examiner would find the Huhn Reference material for obviousness, Amgen provides no evidence to reasonably infer that Dr. Lindhofer knew the Huhn Reference was material. Although this Court disagrees with Lindis' argument that the Huhn Reference is cumulative of Rose, it is plausible that Dr. Lindhofer believed the Huhn Reference is cumulative of Rose. Thus, an intent to deceive is not the single most reasonable inference for why Dr. Lindhofer withheld the Huhn Reference.

III. CONCLUSION

For the reasons discussed above, the Court concludes that Amgen has proven that the '158 and the '421 patents are unenforceable due to inequitable conduct.