Gregory D. Miller
Jenna Z. Gabay
RIVKIN RADLER LLP
21 Main Street, Suite 158
Court Plaza South – West Wing
Hackensack, New Jersey 07601
Tel: (201) 287-2474
Fax: (201) 489-0495

OF COUNSEL:
Margaret E. Ives (*admitted pro hac vice)*
Eric Marandett (*admitted pro hac vice)*
Sophie F. Wang (*admitted pro hac vice)*
CHOATE HALL & STEWART LLP
Two International Place
Boston, Massachusetts 02110
Tel: (617) 248-5000
Fax: (617) 248-4000

Attorneys for Defendant, Adello Biologics, LLC

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

AMGEN INC. and AMGEN MANUFACTURING LIMITED, Plaintiffs, v. ADELLO BIOLOGICS, LLC, Defendant.	C.A. No. 2:18-cv-03347-CCC-MF

DEFENDANT ADELLO BIOLOGICS, LLC'S ANSWER, DEFENSES, AND COUNTERCLAIMS

Defendant Adello Biologics, LLC ("Adello") hereby answers the Complaint filed by Amgen Inc. and Amgen Manufacturing Limited (collectively, "Amgen") as follows:

THE PARTIES

1. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 1 and, therefore, denies those allegations.

2. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 2 and, therefore, denies those allegations.

3. Adello is a limited liability company and, therefore, denies that it is a corporation. Adello admits that it is organized and exists under the laws of Delaware and is registered to do business in New Jersey. Adello admits that its principal place of business, headquarters, and research and development laboratory is located at 20 New England Avenue, Piscataway, New Jersey 08854. Adello admits that it is in the business of developing biopharmaceutical products for distribution and sale in New Jersey and throughout the United States. Adello denies the remaining allegations contained in Paragraph 3.

4. Adello admits that it develops and seeks regulatory approval for importing, marketing, distributing, and selling biosimilar versions of biopharmaceutical products in the state of New Jersey and throughout the United States. Adello denies the remaining allegations contained in Paragraph 4.

NATURE OF THE ACTION

5. Adello admits that the Complaint purports to state a cause of action for patent infringement. Adello expressly denies that it has committed or is committing any acts of patent infringement.

6. Adello admits that the Complaint asserts infringement of the patents listed in Paragraph 6 of the Complaint (collectively, the "Asserted Patents"). Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 6 and, therefore, denies those allegations.

7. Paragraph 7 states legal conclusions or characterizations of the Biologics Price Competition and Innovation Act of 2009 ("BPCIA") to which no response is required. To the extent a response is required, Adello denies all mischaracterizations of the referenced statutes. Adello admits that the BPCIA created an abbreviated regulatory approval process for a biological product that is "highly similar" to a "reference product" previously approved by the FDA. 42 U.S.C. § 262(i), (k). Adello further admits that an application submitted pursuant to the BPCIA "shall include publicly-available information regarding the [FDA]'s previous determination that the reference product is safe, pure, and potent." 42 U.S.C. § 262(k)(2)(A)(iii). Adello admits that it seeks approval for a biosimilar to the reference product NEUPOGEN®, and that Amgen is the sponsor of NEUPOGEN®. Adello further admits that NEUPOGEN® is approved by the U.S. Food and Drug Administration ("FDA") for, among other things, decreasing the incidence of infection in patients receiving myelosuppressive anti-cancer drugs.

8. Paragraph 8 states legal conclusions or characterizations of the BPCIA to which no response is required. To the extent a response is required, Adello denies all mischaracterizations of the referenced statutes.

9. Paragraph 9 states legal conclusions or characterizations of the BPCIA to which no response is required. To the extent a response is required, Adello denies all mischaracterizations of the referenced statutes.

10. Paragraph 10 states legal conclusions or characterizations of the BPCIA to which no response is required. To the extent a response is required, Adello denies all mischaracterizations of the referenced statutes.

11. Paragraph 11 states a legal conclusion to which no response is required. To the extent a response is required, Adello denies all mischaracterizations of the referenced statute.

12. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen, notifying Amgen that Adello's application for approval of a biosimilar of NEUPOGEN® had been accepted by the FDA for review, and that it intends to commercially market a proposed biosimilar of NEUPOGEN® "upon receiving FDA approval and no earlier than 180 days from [September 11, 2017]." That letter speaks for itself and Adello denies any mischaracterization of that letter. Adello admits that the application number for Amgen's BLA for NEUPOGEN® is 103353, and states that the application number for the Adello abbreviated Biologics License Application ("aBLA") is 761082. The remainder of Paragraph 12 states legal conclusions or characterizations of the BPCIA to which no response is required. To the extent a response is required, Adello denies all mischaracterizations of the referenced statutes.

13. Adello states that its September 11, 2017 letter speaks for itself, and denies any mischaracterization of that letter. Adello admits that it was not required to, and did not, provide Amgen with a copy of its aBLA or manufacturing information prior to Amgen filing this lawsuit. *See Sandoz, Inc. v. Amgen Inc.*, 137 S. Ct. 1664, 1674-75 (2017). Adello further states that the press release cited in Paragraph 13 speaks for itself, and denies any mischaracterization of that press release.

14. Paragraph 14 of the Complaint consists of Amgen's speculation and opinion, the truth of which Adello is without information or knowledge sufficient to form a belief. Adello therefore denies those allegations.

15. Admitted.

16. Admitted.

17. Paragraph 17 states a legal conclusion to which no response is required. To the extent a response is required, Adello denies all mischaracterizations of the referenced statutes.

18. Denied.

19. Admitted.

20. Denied.

JURISDICTION AND VENUE

21. Adello admits that this action purports to arise under the patent laws of the United States and under the Declaratory Judgment Act of 1934.

22. Paragraph 22 states a legal conclusion to which no response is required. To the extent a response is required, Adello admits this Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

23. Paragraph 23 states a legal conclusion to which no response is required. To the extent a response is required, Adello does not contest venue in this judicial district for purposes of this action.

24. Admitted.

25. Paragraph 25 states a legal conclusion to which no response is required. To the extent a response is required, Adello does not contest personal jurisdiction in this judicial district for purposes of this action.

26. Adello admits that it conducts business in the State of New Jersey, and maintains a corporate headquarters in Piscataway, New Jersey, where corporate functions are conducted and where Adello maintains a research and development laboratory. Adello further admits that its corporate officers, including its chief executive officer, are located in New Jersey. Adello denies that it derives substantial revenue from services or things used or consumed in the State of New Jersey. The remainder of Paragraph 26 states legal conclusions to which no response is required. To the extent a response is required, Adello denies the remaining allegations contained in Paragraph 26.

27. Adello admits that it develops and seeks regulatory approval for biopharmaceuticals for sale and use throughout the United States, including in this federal Judicial District. Adello denies that it currently markets, distributes, commercially manufactures, or sells biopharmaceuticals in the United States. Adello denies the remaining allegations contained in Paragraph 27.

28. Adello admits that on or about September 11, 2017, Adello notified Amgen that FDA accepted its aBLA for review and provided Amgen with its notice of commercial marketing pursuant to 42 U.S.C. § 262(*l*)(8)(A). Adello's September 11, 2017 letter speaks for itself. The FDA document cited by Amgen in Paragraph 28 and attached to the Complaint as Exhibit 2 also speaks for itself, and Adello denies any mischaracterization of that document. The remaining allegations contained in Paragraph 28 are either entirely speculative or state legal conclusions to which no response is required.

BACKGROUND

29. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 29 and, therefore, denies those allegations.

30. Admitted.

31. Admitted.

32. Adello states that Exhibit 3 speaks for itself and no response is required. To the extent Paragraph 32 of the Complaint mischaracterizes Exhibit 3, Adello denies those allegations.

33. Admitted.

34. Admitted.

35. Admitted.

36. Paragraph 36 states legal conclusions to which no response is required. To the extent a response is required, Adello denies all mischaracterizations of the referenced statute.

37. Adello admits that its Filgrastim Product is a biosimilar of NEUPOGEN® and designed to compete with NEUPOGEN®. Adello denies the remaining allegations contained in Paragraph 37.

38. Adello admits that it is seeking licensure pursuant to 42 U.S.C. § 262(k) for the commercial manufacture, use, offer to sell, sale and import of the Adello Filgrastim Product. Adello further admits that NEUPOGEN® is the reference product for Adello's aBLA. Adello states that Exhibit 1 speaks for itself and no response is required. Adello denies the remaining allegations contained in Paragraph 38.

THE PATENTS-IN-SUIT

39. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 39 and, therefore, denies those allegations.

40. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 40 and, therefore, denies those allegations.

41. Adello admits that a document purporting to be a copy of the '391 Patent, entitled "Highly Efficient Controlled Expression of Exogenous Genes in *E. coli*" and issued January 30, 2011 by the United States Patent and Trademark Office ("USPTO"), is attached to the Complaint as Exhibit 5.

42. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 42 and, therefore, denies those allegations.

43. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 43 and, therefore, denies those allegations.

44. Adello admits that a document purporting to be a copy of the '948 Patent, entitled "Polypeptide Purification Reagents and Methods for Their Use" and issued August 1, 2006 by the USPTO, is attached to the Complaint as Exhibit 6.

45. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 45 and, therefore, denies those allegations.

46. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 46 and, therefore, denies those allegations.

47. Adello admits that a document purporting to be a copy of the '884 Patent, entitled "Method for Controlling Metalloposphate Precipitation in High Cell Density Fermentations" and issued October 10, 2006 by the USPTO, is attached to the Complaint as Exhibit 7.

48. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 48 and, therefore, denies those allegations.

49. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 49 and, therefore, denies those allegations.

50. Adello admits that a document purporting to be a copy of the '765 Patent, entitled "Cell Culture Performance with Betaine" and issued June 10, 2008 by the USPTO, is attached to the Complaint as Exhibit 8.

51. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 51 and, therefore, denies those allegations.

52. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 52 and, therefore, denies those allegations.

53. Adello admits that a document purporting to be a copy of the '659 Patent, entitled "Process for Purifying Proteins in a Hydrophobic Interaction Chromatography Flow-Through

Fraction" and issued September 23, 2008 by the USPTO, is attached to the Complaint as Exhibit 9.

54. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 54 and, therefore, denies those allegations.

55. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 55 and, therefore, denies those allegations.

56. Adello admits that a document purporting to be a copy of the '930 Patent, entitled "Polishing Steps used in Multi-Step Protein Purification Processes" and issued February 16, 2010 by the USPTO, is attached to the Complaint as Exhibit 10.

57. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 57 and, therefore, denies those allegations.

58. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 58 and, therefore, denies those allegations.

59. Adello admits that a document purporting to be a copy of the '525 Patent, entitled "Thermally Insulated Apparatus for Liquid Chromatographic Analysis" and issued June 15, 2010 by the USPTO, is attached to the Complaint as Exhibit 11.

60. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 60 and, therefore, denies those allegations.

61. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 61 and, therefore, denies those allegations.

62. Adello admits that a document purporting to be a copy of the '395 Patent, entitled "Process for Purifying Proteins" and issued August 24, 2010 by the USPTO, is attached to the Complaint as Exhibit 12.

63. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 63 and, therefore, denies those allegations.

64. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 64 and, therefore, denies those allegations.

65. Adello admits that a document purporting to be a copy of the '566 Patent, entitled "Valve for Controlling the Flow of Steam and Other Fluids" and issued June 5, 2012 by the USPTO, is attached to the Complaint as Exhibit 13.

66. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 66 and, therefore, denies those allegations.

67. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 67 and, therefore, denies those allegations.

68. Adello admits that a document purporting to be a copy of the '707 Patent, entitled "Process For Purifying Proteins" and issued September 25, 2012 by the USPTO, is attached to the Complaint as Exhibit 14.

69. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 69 and, therefore, denies those allegations.

70. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 70 and, therefore, denies those allegations.

71. Adello admits that a document purporting to be a copy of the '878 Patent, entitled "Capture Purification Processes for Proteins Expressed in a Non-Mammalian System" and issued January 27, 2015 by the USPTO, is attached to the Complaint as Exhibit 15.

72. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 72 and, therefore, denies those allegations.

73. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 73 and, therefore, denies those allegations.

74. Adello admits that a document purporting to be a copy of the '138 Patent, entitled "Refolding Proteins Using a Chemically Controlled Redox State" and issued February 10, 2015 by the USPTO, is attached to the Complaint as Exhibit 16.

75. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 75 and, therefore, denies those allegations.

76. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 76 and, therefore, denies those allegations.

77. Adello admits that a document purporting to be a copy of the '416 Patent, entitled "Methods and Apparati for Nondestructive Detection of Undissolved Particles in Fluid" and issued August 16, 2016 by the USPTO, is attached to the Complaint as Exhibit 17.

78. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 78 and, therefore, denies those allegations.

79. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 79 and, therefore, denies those allegations.

80. Adello admits that a document purporting to be a copy of the '095 Patent, entitled "Device and Methods for Determining Reaction Kinetics" and issued August 25, 2017 by the USPTO, is attached to the Complaint as Exhibit 18.

81. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 81 and, therefore, denies those allegations.

82. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 82 and, therefore, denies those allegations.

83. Adello admits that a document purporting to be a copy of the '997 Patent, entitled "Capture Purification Processes for Proteins Expressed in a Non-Mammalian System" and issued May 9, 2017 by the USPTO, is attached to the Complaint as Exhibit 19.

84. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 84 and, therefore, denies those allegations.

85. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 85 and, therefore, denies those allegations.

86. Adello admits that a document purporting to be a copy of the '239 Patent, entitled "Video Trigger Synchronization for Improved Particle Detection in a Vessel" and issued July 11, 2017 by the USPTO, is attached to the Complaint as Exhibit 20.

87. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 87 and, therefore, denies those allegations.

88. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegations of Paragraph 88 and, therefore, denies those allegations.

89. Adello admits that a document purporting to be a copy of the '287 Patent, entitled "Refolding Proteins Using a Chemically Controlled Redox State" and issued January 2, 2018 by the USPTO, is attached to the Complaint as Exhibit 21.

CAUSES OF ACTION

COUNT I:
JUDGMENT OF INFRINGEMENT OF THE '391 PATENT

90. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-89 of the Complaint as if fully set forth herein.

91. Admitted.

92. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 92 are entirely speculative and/or state legal conclusions to which no response is required.

93. Adello states that the '391 Patent speaks for itself and no response is required.

94. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the methods of expression of protein claimed in the '391 Patent can be used for the expression of the G-CSF protein, and therefore denies that allegation. Adello expressly denies that the methods of expression of protein claimed in the '391 Patent are used for the expression of G-CSF in the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 94.

95. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 95 and, therefore, denies those allegations.

96. Denied.

97. Denied.

98. Denied.

99. Denied.

100. Denied.

COUNT II:
JUDGMENT OF INFRINGEMENT OF THE '948 PATENT

101. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-100 of the Complaint as if fully set forth herein.

102. Admitted.

103. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 103 are entirely speculative and/or state legal conclusions to which no response is required.

104. Adello states that the '948 Patent speaks for itself and no response is required.

105. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the G-CSF protein is amenable to purification by the methods claimed in the '948 Patent, and therefore denies that allegation. Adello expressly denies that the purification methods claimed in the '948 Patent are used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 105.

106. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 106 and, therefore, denies those allegations.

107. Denied.

108. Denied.

109. Denied.

110. Denied.

111. Denied.

COUNT III:
JUDGMENT OF INFRINGEMENT OF THE '884 PATENT

112. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-111 of the Complaint as if fully set forth herein.

113. Admitted.

114. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 114 are entirely speculative and/or state legal conclusions to which no response is required.

115. Adello states that the '884 Patent speaks for itself and no response is required.

116. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello expressly denies that the method claimed in the '884 Patent is used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 116.

117. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 117 and, therefore, denies those allegations.

118. Denied.

119. Denied.

120. Denied.

121. Denied.

122. Denied.

COUNT IV:
JUDGMENT OF INFRINGEMENT OF THE '765 PATENT

123. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-122 of the Complaint as if fully set forth herein.

124. Admitted.

125. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 125 are entirely speculative and/or state legal conclusions to which no response is required.

126. Adello states that the '765 Patent speaks for itself and no response is required.

127. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the methods of expression of protein claimed in the '765 Patent can be used for the expression of proteins, and therefore denies that allegation. Adello expressly denies that the methods of expression of protein claimed in the '765 Patent are used for the expression of G-CSF in the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 127.

128. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 128 and, therefore, denies those allegations.

129. Denied.

130. Denied.

131. Denied.

132. Denied.

133. Denied.

COUNT V:
JUDGMENT OF INFRINGEMENT OF THE '659 PATENT

134. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-133 of the Complaint as if fully set forth herein.

135. Admitted.

136. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 136 are entirely speculative and/or state legal conclusions to which no response is required.

137. Adello states that the '659 Patent speaks for itself and no response is required.

138. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the G-CSF protein is amenable to purification by the hydrophobic interaction methods claimed in the '659 Patent, and therefore denies that allegation. Adello expressly denies that the purification methods claimed in the '659 Patent are used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 138.

139. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 139 and, therefore, denies those allegations.

140. Denied.

141. Denied.

142. Denied.

143. Denied.

144. Denied.

COUNT VI:
JUDGMENT OF INFRINGEMENT OF THE '930 PATENT

145. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-144 of the Complaint as if fully set forth herein.

146. Admitted.

147. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 147 are entirely speculative and/or state legal conclusions to which no response is required.

148. Adello states that the '930 Patent speaks for itself and no response is required.

149. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the G-CSF protein is amenable to purification by the methods claimed in the '930 Patent, and therefore denies that allegation. Adello expressly denies that the purification methods claimed in the '930 Patent are used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 149.

150. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 150 and, therefore, denies those allegations.

151. Denied.

152. Denied.

153. Denied.

154. Denied.

155. Denied.

COUNT VII:
JUDGMENT OF INFRINGEMENT OF THE '525 PATENT

156. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-155 of the Complaint as if fully set forth herein.

157. Admitted.

158. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 158 are entirely speculative and/or state legal conclusions to which no response is required.

159. Adello states that the '525 Patent speaks for itself and no response is required.

160. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello further admits that liquid chromatography is a common technique for purification of proteins for use in biological products. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the G-CSF protein is amenable to purification by liquid chromatographic techniques that include the apparatus claimed in the '525 Patent, and therefore denies that allegation. Adello expressly denies that the apparatus claimed in the '525 Patent is used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 160.

161. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA

or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 161 and, therefore, denies those allegations.

162. Denied.

163. Denied.

164. Denied.

165. Denied.

166. Denied.

COUNT VIII:
JUDGMENT OF INFRINGEMENT OF THE '395 PATENT

167. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-166 of the Complaint as if fully set forth herein.

168. Admitted.

169. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 169 are entirely speculative and/or state legal conclusions to which no response is required.

170. Adello states that the '395 Patent speaks for itself and no response is required.

171. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without knowledge or information sufficient to form a belief as to the truth of the allegation that the G-CSF protein is amenable to purification by the hydrophobic interaction methods claimed in the '395 Patent, and therefore denies that allegation. Adello expressly denies that the purification methods claimed in the '395 Patent are used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 171.

172. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 172 and, therefore, denies those allegations.

173. Denied.

174. Denied.

175. Denied.

176. Denied.

177. Denied.

COUNT IX:
JUDGMENT OF INFRINGEMENT OF THE '566 PATENT

178. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-177 of the Complaint as if fully set forth herein.

179. Admitted.

180. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 180 are entirely speculative and/or state legal conclusions to which no response is required.

181. Adello states that the '566 Patent speaks for itself and no response is required.

182. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without knowledge or information sufficient to form a belief as to the truth of the allegation that fluid flow in a bioprocessing system may be controlled using a pressure-responsive valve as claimed in the '566 Patent, and therefore denies that allegation. Adello expressly denies that the pressure-responsive valve claimed in the '566

Patent is used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 182.

183. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 183 and, therefore, denies those allegations.

184. Denied.

185. Denied.

186. Denied.

187. Denied.

188. Denied.

COUNT X:
JUDGMENT OF INFRINGEMENT OF THE '707 PATENT

189. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-188 of the Complaint as if fully set forth herein.

190. Admitted.

191. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 191 are entirely speculative and/or state legal conclusions to which no response is required.

192. Adello states that the '707 Patent speaks for itself and no response is required.

193. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without knowledge or information sufficient to form a belief as to the truth of the allegation that the G-CSF protein is amenable to purification

by the hydrophobic interaction method claimed in the '707 Patent, and therefore denies that allegation. Adello expressly denies that the purification method claimed in the '707 Patent is used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 193.

194. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 194 and, therefore, denies those allegations.

195. Denied.

196. Denied.

197. Denied.

198. Denied.

199. Denied.

COUNT XI:
JUDGMENT OF INFRINGEMENT OF THE '878 PATENT

200. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-199 of the Complaint as if fully set forth herein.

201. Admitted.

202. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 202 are entirely speculative and/or state legal conclusions to which no response is required.

203. Adello states that the '878 Patent speaks for itself and no response is required.

204. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the G-CSF protein is amenable to the method claimed in the '878 Patent, and therefore denies that allegation. Adello expressly denies that the method claimed in the '878 Patent is used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 204.

205. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 205 and, therefore, denies those allegations.

206. Denied.

207. Denied.

208. Denied.

209. Denied.

210. Denied.

COUNT XII:
JUDGMENT OF INFRINGEMENT OF THE '138 PATENT

211. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-210 of the Complaint as if fully set forth herein.

212. Admitted.

213. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 213 are entirely speculative and/or state legal conclusions to which no response is required.

214. Adello states that the '138 Patent speaks for itself and no response is required.

215. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the G-CSF protein is amenable to the methods claimed in the '138 Patent, and therefore denies that allegation. Adello expressly denies that the methods claimed in the '138 Patent are used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 215.

216. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 216 and, therefore, denies those allegations.

217. Denied.

218. Denied.

219. Denied.

220. Denied.

221. Denied.

COUNT XIII:
JUDGMENT OF INFRINGEMENT OF THE '416 PATENT

222. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-221 of the Complaint as if fully set forth herein.

223. Admitted.

224. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 224 are entirely speculative and/or state legal conclusions to which no response is required.

225. Adello states that the '416 Patent speaks for itself and no response is required.

226. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the methods claimed in the '416 Patent are able to determine the particulates in bioprocessing equipment of the sort that is used for production of proteins for biologic pharmaceutical products, and therefore denies that allegation. Adello expressly denies that the methods claimed in the '416 Patent are used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 226.

227. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 227 and, therefore, denies those allegations.

228. Denied.

229. Denied.

230. Denied.

231. Denied.

232. Denied.

COUNT XIV:
JUDGMENT OF INFRINGEMENT OF THE '095 PATENT

233. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-232 of the Complaint as if fully set forth herein.

234. Admitted.

235. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 235 are entirely speculative and/or state legal conclusions to which no response is required.

236. Adello states that the '095 Patent speaks for itself and no response is required.

237. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that degradation and/or aggregation of the G-CSF protein is amenable to determination by the method claimed in the '095 Patent, and therefore denies that allegation. Adello expressly denies that the method claimed in the '095 Patent is used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 237.

238. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 238 and, therefore, denies those allegations.

239. Denied.

240. Denied.

241. Denied.

242. Denied.

243. Denied.

COUNT XV:
JUDGMENT OF INFRINGEMENT OF THE '997 PATENT

244. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-243 of the Complaint as if fully set forth herein.

245. Admitted.

246. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 246 are entirely speculative and/or state legal conclusions to which no response is required.

247. Adello states that the '997 Patent speaks for itself and no response is required.

248. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the G-CSF protein is amenable to the method claimed in the '997 Patent, and therefore denies that allegation. Adello denies the remaining allegations contained in Paragraph 248.

249. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 249 and, therefore, denies those allegations.

250. Denied.

251. Denied.

252. Denied.

253. Denied.

254. Denied.

COUNT XVI:
JUDGMENT OF INFRINGEMENT OF THE '239 PATENT

255. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-254 of the Complaint as if fully set forth herein.

256. Admitted.

257. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 257 are entirely speculative and/or state legal conclusions to which no response is required.

258. Adello states that the '239 Patent speaks for itself and no response is required.

259. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the methods claimed in the '239 Patent are able to determine the particulates in bioprocessing equipment of the sort that is used for production of proteins for biologic pharmaceutical products, and therefore denies that allegation. Adello expressly denies that the methods claimed in the '239 Patent are used in the production of the Adello Filgrastim Product. Adello denies the remaining allegations contained in Paragraph 259.

260. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 260 and, therefore, denies those allegations.

261. Denied.

262. Denied.

263. Denied.

264. Denied.

265. Denied.

COUNT XVII:
JUDGMENT OF INFRINGEMENT OF THE '287 PATENT

266. Adello repeats and incorporates by reference its responses to the allegations of Paragraphs 1-265 of the Complaint as if fully set forth herein.

267. Admitted.

268. Adello states that the September 11, 2017 letter and Exhibit 2 speak for themselves and no response is required. The remaining allegations contained in Paragraph 268 are entirely speculative and/or state legal conclusions to which no response is required.

269. Adello states that the '287 Patent speaks for itself and no response is required.

270. Adello admits that it will produce the G-CSF protein for its Filgrastim Product using a bacterial expression system. Adello is without information or knowledge sufficient to form a belief as to the truth of the allegation that the G-CSF protein is amenable to refolding by the methods claimed in the '287 Patent, and therefore denies that allegation. Adello denies the remaining allegations contained in Paragraph 270.

271. Adello admits that on or about September 11, 2017, Adello sent a letter to Amgen stating that it was not required to and did not intend to provide Amgen with a copy of its aBLA or manufacturing information. Adello is without information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 271 and, therefore, denies those allegations.

272. Denied.

273. Denied.

274. Denied.

275. Denied.

276. Denied.

Adello denies that Amgen is entitled to the relief requested or to any other relief against Adello. To the extent a further response to Amgen's prayer for relief is necessary, Adello denies each and every allegation set forth in Amgen's request (provisions A through G, inclusive).

DEFENSES

First Defense

Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 does not, has not, and will not infringe, directly or indirectly, any valid and enforceable claim of the Asserted Patents, either literally or under the doctrine of equivalents.

Second Defense

Adello does not import into the United States, nor offer to sell, sell, or use within the United States a product which is made by a process patented in the United States, and therefore cannot be liable for infringement under 35 U.S.C. § 271(g).

Third Defense

Adello does not make, use, offer to sell, or sell any invention claimed in the Asserted Patents, and therefore cannot be liable for infringement under 35 U.S.C. § 271(a).

Fourth Defense

The claims of the Asserted Patents are invalid because they fail to satisfy the conditions for patentability stated in Title 35 of the United States Code, including, *inter alia*, §§ 101, 102, 103 and 112.

Fifth Defense

Amgen's claims for relief are barred, in whole or in part, by the doctrine of prosecution history estoppel.

Sixth Defense

Amgen's claims for injunctive relief are barred because Plaintiff has an adequate remedy at law, has not been irreparably harmed, the balance of hardships is not in its favor, and the public interest is not served by granting injunctive relief.

Seventh Defense

Amgen's claims for damages are limited and/or barred under 35 U.S.C. §§ 286 and 287.

Eighth Defense

Amgen's claims fail to state a claim under Fed. R. Civ. P. 12(b)(6).

Ninth Defense

To the extent Amgen claims that the manufacture and clinical use of Adello's proposed Filgrastim Product that is the subject of Adello's aBLA No. 761082 related to the development and subjection of information to the FDA is an act of infringement, Adello is exempt from liability under the safe harbor provision of 35 U.S.C. § 271(e).

Additional Defenses

Adello expressly reserves the right to amend this Answer to assert additional defenses, cross-claims, and/or other claims and defenses that may become known to it through discovery, including, but not limited to, inequitable conduct.

COUNTERCLAIMS

Adello Biologics, LLC ("Adello") asserts the following Counterclaims against Amgen:

PARTIES

1. Adello is a New Jersey limited liability company with a principal place of business in Piscataway, New Jersey.

2. Counterclaim-defendants Amgen Inc. and Amgen Manufacturing Limited (collectively, "Amgen") allege that they are foreign corporations. Amgen Inc. is organized under the laws of the State of Delaware. Amgen Manufacturing Limited is organized under the laws of the Territory of Bermuda.

JURISDICTION AND VENUE

3. These Counterclaims arise under the patent laws of the United States, as enacted under Title 35 of the United States Code and the provisions of the Declaratory Judgment Act, 28 U.S.C. §§ 2201-2202. This Court has subject matter jurisdiction over these Counterclaims pursuant to 28 U.S.C. §§ 1331-1338 because these Counterclaims arise under the patent laws of the United States, and pursuant to 28 U.S.C. §§ 2201-2202 because an actual controversy exists between Adello and Amgen.

4. These Counterclaims arise out of the same transaction or occurrence that is the subject of Amgen's Complaint. This Court has personal jurisdiction over Amgen because it submitted itself to the jurisdiction of this Court by filing its Complaint in this judicial district. The acts committed by Amgen that are the basis of this declaratory judgment action occurred in this judicial district.

5. In its Complaint, Amgen alleges that Adello has infringed U.S. Patent Nos. 6,180,391, 7,083,948, 7,118,884, 7,384,765, 7,427,659, 7,662,930, 7,735,525, 7,781,395, 8,191,566, 8,273,707, 8,940,878, 8,952,138, 9,418,416, 9,632,095, 9,643,997, 9,704,239, and

9,856,287 (collectively, the "Patents-in-Suit"). Because Adello denies that it infringes any valid and enforceable claim of the Patents-in-Suit, and/or denies that the asserted claims of the Patents-in-Suit are valid, an actual and justiciable controversy has arisen and now exists between Adello, on the one hand, and Amgen, on the other, as to whether Adello infringes any claim of the Patents-in-Suit and as to whether the claims of the Patents-in-Suit are valid.

6. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391 because a substantial part of the events that give rise to these Counterclaims occurred in this district.

BACKGROUND

7. The Biologics Price Competition and Innovation Act of 2009 ("BPCIA") created a regulatory pathway by which an applicant can obtain approval from the United States Food and Drug Administration ("FDA") to market a "biosimilar" drug product that is "highly similar" in safety, purity and potency to an existing, branded biologic product. *See* 42 U.S.C. §§ 262(i), (k). The stated purpose of the BPCIA is to establish "a biosimilars pathway balancing innovation and consumer interests." BPCIA § 7001(b).

8. Adello is pharmaceutical company focused exclusively on addressing the global need for greater access to affordable treatments for life-threating diseases by bringing biosimilar drugs to market. Headquartered in Piscataway, New Jersey, Adello manages all of its proprietary biosimilar programs in-house under a team of industry experts.

9. Filgrastim, currently sold by Amgen under the brand name NEUPOGEN®, is a recombinant-DNA form of naturally occurring protein, granulocyte colony-stimulating factor (G-CSF), used to stimulate neutrophil production. Neutropenia, or a low concentration of neutrophils (a type of white blood cell) occurs, for example, following treatment with myelosuppressive chemotherapy or radiation, or after a bone marrow transplantation. Adello has submitted abbreviated Biologics License Application ("aBLA") No. 761082 to the FDA for a

biosimilar candidate referencing NEUPOGEN®. Adello's aBLA No. 761082 is incorporated herein in its entirety.

10. NEUPOGEN® has been sold by Amgen in the United States since 1991 and has generated billions of dollars in revenues for Amgen since its initial launch.

11. Amgen's 12-year market exclusivity for NEUPOGEN® expired fifteen years ago in 2003. *See* 42 USC § 262(k)(7)(A).

12. Amgen's primary composition of matter and method of treatment patents covering NEUPOGEN®—U.S. Patent Nos. 5,582,823 and 5,580,755—expired in December 2013.

13. Yet Amgen has continued to report hundreds of millions of dollars in net revenues per year for its sales of NEUPOGEN® in the United States alone.

14. In August 2012, Teva announced that it had received approval from the FDA to market its Tbo-filgrastim product (a recombinant form of G-CSF) for the treatment of chemotherapy-induced neutropenia. Teva has been marketing its Tbo-filgrastim product in the United States, in competition with Amgen's NEUPOGEN® since November 2013, following settlement of its patent litigation with Amgen involving U.S. Patent Nos. 5,582,823 and 5,580,755.

15. In October 2014, Amgen sued Sandoz for patent infringement in connection with Sandoz's filing of an aBLA seeking FDA approval to market a biosimilar of NEUPOGEN®. In December 2017, the Northern District of California granted Sandoz's motion for summary judgment of non-infringement with respect to U.S. Patent No. 8,940,878. In March 2015, Sandoz's filgrastim biosimilar, Zarxio, was approved by the FDA for the same indications as NEUPOGEN®. Zarxio exceeded $100 million in sales in the first year.

16. In 2014, Apotex also submitted an aBLA which sought approval to market a biosimilar of NEUPOGEN®. Upon receiving notice of acceptance of that application by the FDA, Amgen filed suit against Apotex in the United States District Court for the Southern District of Florida, alleging infringement of U.S. Patent No. 8,952,138 ("the '138 Patent"). During the subsequent trial, Dr. Roger Hart, listed as a named inventor on the '138 Patent, testified on behalf of Amgen that Amgen does not use the method claims in the '138 Patent for the manufacture of NEUPOGEN®. Specifically, Dr. Hart testified that "[t]he processes to produce human-grade NEUPOGEN. . . existed, was licensed, was validated, and was providing patients with commercial-grade material at the time of this invention." On September 6, 2016, the District Court found that Apotex does not infringe the asserted claims of U.S. Patent No. 8,952,138. On November 13, 2017, the Federal Circuit affirmed that judgment. Apotex's aBLA application has not yet been approved.

17. On or about September 8, 2017, the FDA accepted Adello's aBLA for a biosimilar candidate referencing NEUPOGEN®.

18. On or about September 11, 2017, Adello sent a letter to Amgen, notifying Amgen that Adello's aBLA had been accepted by the FDA for review, and providing Amgen with 180-day notice of commercial marketing pursuant to 42 U.S.C. § 262(*l*)(8)(A).

19. On March 8, 2018, Amgen filed the instant lawsuit, asserting the Patents-in-Suit against Adello. None of the Patents-in-Suit specifically claim G-CSF or methods of treatment using G-CSF. Nor are any of the Patents-in-Suit identified on the label for NEUPOGEN® as covering that product. Upon information and belief, Amgen does not practice any of the Patents-in-Suit in its manufacture of NEUPOGEN®.

THE PATENTS-IN-SUIT

U.S. Patent No. 6,180,391 ("the '391 Patent")

20. The '391 Patent is entitled "Highly Efficient Controlled Expression of Exogenous Genes in *E. coli*."

21. The '391 Patent issued on January 30, 2001 and expires on January 26, 2019.

22. Claim 1 of the '391 Patent recites:

> A translational repression vector system for use in cloning or expressing a DNA sequence encoding a specific heterologous gene in bacteria, said system comprising a translational repressor operably linked to a constitutive promoter, and said heterologous gene operably linked to an inducible promoter and a translational repressor recognition sequence; wherein pre-induction leakage of said inducible promoter is abolished without the loss of inducibility.

23. Claims 1-8 and 14-17 of the '391 Patent purport to require a translational repressor and a heterologous gene operably linked to a translational repressor recognition sequence.

24. The '391 Patent specification describes a "translational repressor" as "protein capable of specifically binding a recognition site on a piece of RNA and inhibiting translation." '391 Patent at 11:22-25.

25. Claims 9-12 purport to require an M2 controlled T7 gene 1 cassette.

26. Claim 13 purports to require a system comprising DNA encoding motA and asiA gene sequences.

27. Claims 18-20 purport to require an MS2-based T4 cassette.

28. Claim 21 purports to require the sequence of SEQ ID NO:1.

29. Claim 22 purport to require the sequence of SEQ ID NO:2.

U.S. Patent No. 7,083,948 ("the '948 Patent")

30. The '948 Patent is entitled "Polypeptide Purification Reagents and Methods for Their Use."

31. The '948 Patent issued on August 1, 2006 and expires on December 19, 2023.

32. Claim 1 of the '948 Patent recites:

> A method for purifying a protein of interest comprising: (a) combining an isolated recombinant, non-antibody polypeptide purification reagent with the protein of interest, wherein all or part of the polypeptide purification reagent is the product of an in vitro selection for binding to the protein of interest; (b) adjusting conditions such that the polypeptide purification reagent can bind to the protein of interest and such that the polypeptide purification reagent, when bound to the protein of interest forms a precipitate; and (c) recovering the polypeptide purification reagent bound to the protein of interest as a precipitate, wherein the performance of steps (a)-(c) purifies the protein of interest.

33. Each of the claims of the '948 Patent purports to require a non-antibody polypeptide purification reagent that, when bound to the protein of interest, forms a precipitate.

34. The '948 Patent specification describes "[a] non-antibody polypeptide" as "one that does not comprise an immunoglobulin or immunoglobulin-like domain. '948 Patent at 8:40-51.

35. The '948 Patent specification describes "a polypeptide purification reagent" as "a molecule, which comprises protein, that can reversibly and specifically bind to a protein of interest and can be used to purify the protein of interest." '948 Patent at 8:52-56.

36. The '948 Patent specification describes a "precipitate" as "a solid that separates out from a solution or suspension." '948 Patent at 8:66-67.

U.S. Patent No. 7,118,884 ("the '884 Patent")

37. The '884 Patent is entitled "Method for Controlling Metallophosphate Precipitation in High Cell Density Fermentations."

38. The '884 Patent issued on October 10, 2006 and expires on April 24, 2019.

39. Claim 1 of the '884 Patent recites:

> A method for reducing precipitation in a bacterial fermentation process for producing a recombinant protein comprising inclusion of phosphate glasses as a phosphorus source in the nutrient media during production of said protein; wherein said process is a high cell density fermentation process.

40. Each of the claims of the '884 Patent purports to require inclusion of a "phosphate glass" or "phosphate glasses."

41. The '884 Patent specification describes "phosphate glasses" as "linear polyphosphates having relatively specialized applications" which "consist mainly of a mixture of cations and discrete polyphosphate chains." '884 Patent at 5:34-43. "Phosphate glasses are formed by condensation of orthophosphate anions, i.e., heating NaH2PO4 to ~650° C. and quenching." '884 Patent at 5:46-46-48.

U.S. Patent No. 7,384,765 ("the '765 Patent")

42. The '765 Patent is entitled "Cell Culture Performance with Betaine."

43. The '765 Patent issued on June 10, 2008 and expires on August 23, 2022.

44. Claim 1 of the '765 Patent recites:

> A method comprising culturing a recombinantly engineered cell line in culture medium in normal osmotic conditions, wherein the cell line is recombinantly engineered to express a polypeptide of interest, the medium has an effective amount of *betaine*, whereby cell survival and expression of said polypeptide of interest are improved relative to cells grown without betaine, wherein the cells are grown during a proliferative phase in the absence of *betaine*, and in the presence of *betaine* in an induction phase.

45. Each of the claims of the '765 Patent purports to require a cell culture medium lacking betaine to be used in the proliferative phase and a cell culture medium that includes betaine to be used in the induction phase.

U.S. Patent No. 7,427,659 ("the '659 Patent")

46. The '659 Patent is entitled "Process for Purifying Proteins in a Hydrophobic Interaction Chromatography Flow-Through Fraction."

47. The '659 Patent issued on September 23, 2008 and expires on March 15, 2025.

48. Claim 1 of the '659 Patent recites:

> A method for separating a recombinant target protein from a mixture containing the recombinant target protein and non-target cell culture protein contaminants produced by cell culture expression of the recombinant protein, comprising:
>
> a) contacting the mixture containing a recombinant target protein and a non-target cell culture protein contaminant produced by cell culture expression of the recombinant protein with a hydrophobic adsorbent comprising branched alkyl functional groups having from 4 to about 8 carbon atoms, at least one of which is a tertiary carbon atom, in an aqueous salt solution under loading conditions that permit the non-target cell culture protein contaminants to bind to the adsorbent and the recombinant target protein to pass through the hydrophobic adsorbent in a flow-through fraction without binding to the hydrophobic adsorbent, wherein the loading condition comprises a pH of from 5.5 to about 8.6;
>
> b) allowing the recombinant target protein to pass through the hydrophobic adsorbent in the flow-through fraction portion of the mixture; and
>
> c) collecting the flow-through fraction portion of the mixture containing the recombinant target protein that does not bind to the hydrophobic adsorbent to separate the recombinant target protein from the cell culture protein contaminants.

49. Each of the claims of the '659 Patent purports to require loading conditions that permit contaminants, misfolded variants, and/or aggregated forms of the protein to bind to the adsorbent and the target protein and/or correctly folded variants thereof to pass through the hydrophobic adsorbent in a flow-through fraction without binding to the hydrophobic adsorbent.

50. During prosecution of the '659 Patent, the applicant expressly limited the invention of the '659 Patent to "an HIC protein purification process in which the target protein passes through in a flow-through column without binding to the HIC column."

U.S. Patent No. 7,662,930 ("the '930 Patent")

51. The '930 Patent is entitled "Polishing Steps Used in Multi-Step Protein Purification Processes."

52. The '930 Patent issued on February 16, 2010 and expires on February 11, 2027.

53. Claim 1 of the '930 Patent recites:

> A method for removing residual impurities from a first target-molecule solution, the method comprising: loading the target-molecule solution onto a cation-exchange-chromatography column; eluting the target molecule as a second target-molecule solution from the cation-exchange-chromatography column using a time dependent pH gradient buffer eluant to remove impurities from the first target molecule solution; and passing the second target-molecule, diluted one-fold or less, solution through a Q membrane at a flow rate of between 400 and 600 cm/h to remove residual impurities from the second target-molecule solution.

54. Each of the claims of the '930 Patent purports to require passing a second target-molecule solution through a Q membrane to remove residual impurities.

55. The '930 Patent specification describes "Q membranes" as "anion exchangers"—i.e., they "have positively charged functional groups that attract negatively charged functional groups of target molecules." '930 Patent at 6:40-43; *see also id*. at 2:62-65. As further described in the '930 Patent, Q membranes "operate as basic anion-exchange adsorbers and are based on quaternary ammonium salts. Q membranes have large surface to volume ratios, and comprise a thin, microporous adsorptive layer bound to a cellulose matrix." '930 Patent at 6:43-48. An example of a Q Membrane disclosed in the specification of the '930 Patent is the Sartobind® Q membrane.

56. During prosecution, the applicant expressly argued that "[a] Q-membrane is not used for sterilization, which can be performed in another subsequent step, but for removing charged contaminants such as relatively large host cell proteins, DNA, RNA, intact viruses and endotoxins."

U.S. Patent No. 7,735,525 ("the '525 Patent")

57. The '525 Patent is entitled "Thermally Insulated Apparatus for Liquid Chromatographic Analysis."

58. The '525 Patent issued on June 15, 2010 and expires on April 22, 2028.

59. Claim 1 of the '525 Patent recites:

> A thermally insulated apparatus, comprising: (a) an elongated metallic body having an exterior portion, a hollow interior portion and two openings located at opposing ends of a longitudinal axis; (b) an insulating material contacting the exterior of the elongated metallic body of (a); and (c) two capping members having a design that allows the capping members to substantially cover the openings located at opposing ends of the longitudinal axis of the metallic body of (a), and wherein each of the two capping members comprise an opening or slit that allows tubing, which carries mobile phase into and out of a analytical separation column, to pass therethrough, wherein the insulation material substantially surrounds the entire outer surface of the elongated metallic body with the exception of those portions that contact a heating source.

60. Each of the claims of the '525 Patent purports to require apparatuses for thermally insulating liquid chromatographic separation columns.

U.S. Patent No. 7,781,395 ("the '395 Patent")

61. The '395 Patent is entitled "Process for Purifying Proteins."

62. The '395 Patent issued on August 24, 2010 and expires on March 7, 2025.

63. Claim 1 of the '395 Patent recites:

> A process for purifying a protein on a hydrophobic interaction chromatography column such that the dynamic capacity of the column is increased for that protein comprising mixing a preparation containing the protein with a combination of a first salt and a second salt, loading the mixture onto a hydrophobic interaction chromatography column, and eluting the protein, wherein the first and second salts are citrate and phosphate salts, and wherein the concentration of each of the first salt and the second salt in the mixture is between about 0.1 M and about 1.0.

64. Each of the claims of the '395 Patent purports to require loading a mixture containing the protein with citrate and phosphate salts onto a hydrophobic interaction chromatography ("HIC") column.

65. During prosecution of the '395 Patent, the applicant expressly limited the claims to the specific combination of citrate and phosphate salts.

U.S. Patent No. 8,191,566 ("the '566 Patent")

66. The '566 Patent is entitled "Valve for Controlling the Flow of Steam and Other Fluids."

67. The '566 Patent issued on June 5, 2012 and expires on March 8, 2029.

68. Claim 1 of the '566 Patent recites:

> A method of fluid transfer using a conduit assembly including a conduit defining a channel and also including a rupture valve dividing the channel into an inlet portion and an outlet portion, the rupture valve having an inlet side and an outlet side, the method comprising: applying steam to the outlet portion of the channel with the rupture valve restricting entry of the steam into the inlet portion; rupturing the rupture valve by increasing a pressure exerted on at least a portion of the inlet side of the rupture valve to create a passageway through the rupture valve; and adding a fluid reagent to a receiver vessel connected to the conduit assembly, from a supply vessel containing the fluid reagent and through the passageway of the rupture valve.

69. Each of the claims of the '566 Patent purports to require the application of steam to a channel and the use of a pressure-responsive valve for controlling the flow of fluids.

U.S. Patent No. 8,273,707 ("the '707 Patent")

70. The '707 Patent is entitled "Process for Purifying Proteins."

71. The '707 Patent issued on September 25, 2012 and expires on September 14, 2024.

72. Claim 1 of the '707 Patent recites:

> A process for purifying a protein on a hydrophobic interaction chromatography column such that the dynamic capacity of the column is increased for the protein comprising mixing a preparation containing the protein with a combination of a first salt and a second salt, loading the mixture onto a hydrophobic interaction chromatography column, and eluting the protein, wherein the first and second salts are selected from the group consisting of citrate and sulfate, citrate and acetate, and sulfate and acetate, respectively, and wherein the concentration of

each of the first salt and the second salt in the mixture is between about 0.1 M and about 1.0.

73. Each of the claims of the '707 Patent purports to require loading a mixture of the protein with a combination of salts consisting of citrate and sulfate, citrate and acetate, and sulfate and acetate, onto a hydrophobic interaction chromatography (HIC) column.

74. During prosecution, the applicant expressly limited the invention to the selection of salts from combinations consisting of citrate and sulfate, citrate and acetate, and sulfate and acetate. *Amgen, Inc. v. Coherus Biosciences, Inc.*, Civil Action No. 17-546, Dkt. No. 74 (D. Del March 28, 2018).

U.S. Patent No. 8,940,878 ("the '878 Patent")

75. The '878 Patent is entitled "Capture Purification Processes for Proteins Expressed in a Non-Mammalian System."

76. The '878 Patent issued on January 27, 2015 and expires on July 29, 2031.

77. Claims 1, 2-6, and 18-25 purport to require an affinity resin and a protein expressed in a non-native soluble form.

78. Claim 7 of the '878 Patent, and claims 8-25 depending therefrom, recite:

> A method of purifying a protein expressed in a non-native limited solubility form in a non-mammalian expression system comprising: (a) expressing a protein in a non-native limited solubility form in a non-mammalian cell; (b) lysing a non-mammalian cell; (c) solubilizing the expressed protein in a solubilization solution comprising one or more of the following: (i) a denaturant; (ii) a reductant; and (iii) a surfactant; (d) forming a refold solution comprising the solubilization solution and a refold buffer, the refold buffer comprising one or more of the following: (i) a denaturant; (ii) an aggregation suppressor; (iii) a protein stabilizer; and (iv) a redox component; (e) directly applying the refold solution to a separation matrix under conditions suitable for the protein to associate with the matrix; (f) washing the separation matrix; and (g) eluting the protein from the separation matrix, wherein the separation matrix is a non-affinity resin selected from the group consisting of ion exchange, mixed mode, and a hydrophobic interaction resin.

79. Claims 7 and 8-25, therefore, purport to require a step of "directly applying the refold solution to a separation matrix."

80. During prosecution of the '878 Patent, the applicant expressly limited the invention to direct application of the refold solution to the separation matrix.

U.S. Patent No. 8,952,138 ("the '138 Patent")

81. The '138 Patent is entitled "Refolding Proteins Using a Chemically Controlled Redox State."

82. The '138 Patent issued on February 10, 2015 and expires on July 29, 2031.

83. Claim 1 of the '138 Patent recites:

> A method of refolding a protein expressed in a non-mammalian expression system and present in a volume at a concentration of 2.0 g/L or greater comprising: (a) contacting the protein with a refold buffer comprising a redox component comprising a final thiol-pair ratio having a range of 0.001 to 100 and a redox buffer strength of 2 mM or greater and one or more of: (i) a denaturant; (ii) an aggregation suppressor; and (iii) a protein stabilizer; to form a refold mixture; (b) incubating the refold mixture; and (c) isolating the protein from the refold mixture.

84. Claim 18 of the '138 Patent recites:

> The method of claim 1, wherein the incubation is performed under non-aerobic conditions.

85. Other than claim 18, each claim of the '138 Patent was invalidated in IPR2016-01542 on February 15, 2018.

U.S. Patent No. 9,418,416 ("the '416 Patent")

86. The '416 Patent is entitled "Methods and Apparati for Nondestructive Detection of Undissolved Particles in a Fluid."

87. The '416 Patent issued on August 16, 2016 and expires on January 31, 2033.

88. Claim 1 of the '416 Patent recites:

> A method of nondestructive counting and sizing of undissolved particles in a vessel that is at least partially filled with a fluid, the method comprising: (a) receiving, by a sensor of an imaging system, at least one image of the particles in the vessel obtained under specified imaging conditions; and analyzing the at least one image by a processor of the imaging system, the analyzing including (b)-(d): (b) detecting the particles and determining information indicative of an apparent size of the detected particles in the image; (c) determining apparent particle size population information indicative of an apparent particle size distribution of the detected particles; and (d) determining actual particle size population information indicative of an actual particle size distribution of the detected particles based on: (i) the apparent particle size population information; and (ii) calibration population information indicative of the apparent size distribution of one or more sets of standard sized particles imaged under conditions corresponding to the specified imaging conditions; wherein (d) comprises fitting a superposition of apparent size distributions for a plurality of the sets of standard sized particles to the apparent particle size population of the detected particles; and wherein fitting the superposition of apparent size distributions for the plurality of sets of standard sized particles conditions to the apparent particle size population of the detected particles comprises: minimizing a difference between the superposition and the apparent particle size population of the detected particles by adjusting the weighting of the apparent size distributions for the plurality of sets of standard sized particles.

89. Each of the claims of the '416 Patent purports to require use of an imaging system or receiving at least one image of particles.

U.S. Patent No. 9,632,095 ("the '095 Patent")

90. The '095 Patent is entitled "Device and Methods for Determining Reaction Kinetics."

91. The '095 Patent issued on April 25, 2017 and expires on November 16, 2035.

92. Claim 1 of the '095 Patent recites:

> A method of determining the reaction rate coefficient (k_{obs}) for the degradation of a chemical species at each of a plurality of constant temperatures, comprising in sequence the steps of a) simultaneously incubating a plurality of samples of the chemical species in a single unitary device at said plurality of constant temperatures T, wherein the incubation of each of the plurality of samples is performed for an incubation time t selected to result in loss of a portion of the chemical species, said portion being at most 20 mol % of the amount originally present, where the choice of t might or might not be the same for each value of T; b) quenching each of the samples in a manner sufficient to stop degradation; c) determining the mole fraction m of the chemical species remaining in each of the

> quenched samples, relative to the amount present before incubating; and d) determining for each sample a reaction rate coefficient k_{obs} according to the equation

$$k_{obs}(T) = \frac{1 - m(T)}{t}.$$

93. Each of the claims of the '095 patent purports to require degradation by simultaneously incubating a plurality of samples in a single unitary device at a plurality of constant temperatures.

U.S. Patent No. 9,643,997 ("the '997 Patent")

94. The '997 Patent is entitled "Capture Purification Processes for Proteins Expressed in a Non-Mammalian System."

95. The '997 Patent issued on May 9, 2017 and expires on June 24, 2030.

96. Claim 1 of the '997 Patent recites:

> A method of purifying a protein expressed in a non-native soluble form in a non-mammalian expression system comprising: (a) lysing a non-mammalian cell in which the protein is expressed in a nonnative soluble form to generate a cell lysate; (b) contacting the cell lysate with a separation matrix under conditions suitable for the protein to associate with the separation matrix; (c) washing the separation matrix; and (d) eluting the protein from the separation matrix.

97. Each of claims 1-8 and 22 purports to require a protein expressed in a non-native soluble form.

98. The '997 Patent specification describes a protein in "non-native soluble form" as a protein that "lacks at least one formed structure attribute found in a form of the protein that is biologically active in appropriate in vivo or in vitro assay designed to assess the protein's biological activity, but in which the protein is expressed in a form or state that is soluble intracellularly (for example in the cell's cytoplasm) or extracellularly (for example, in a lysate pool)." '997 Patent at 7:51-59, 8:5-19.

99. The '997 Patent specification describes a protein in "non-native limited solubility form" as "any form or state in which the protein lacks at least one formed structural feature found in a form of the protein that (a) is biologically active in an appropriate in vivo or in vitro assay designed to assess the protein's biological activity and/or (b) forms aggregates that require treatment, such as chemical treatment, to become soluble." '997 Patent at 7:60-8:1. According to the '997 Patent, the term "non-native limited solubility form" "includes proteins existing in inclusion bodies, such as those sometimes found when a recombinant protein is expressed in a non-mammalian expression system." *Id.* at 7:60-61, 8:1-4.

U.S. Patent No. 9,704,239 ("the '239 Patent")

100. The '239 Patent is entitled "Video Trigger Synchronization for Improved Particle Detection in a Vessel."

101. The '239 Patent issued on July 11, 2017 and expires on September 2, 2036.

102. Claim 1 of the '239 Patent recites:

> A method comprising: during an agitation period of an agitation profile, applying a motion to a transparent vessel containing a fluid acquiring, via one or more imagers while applying the motion, a sequence of original images of a portion of the transparent vessel, the acquisition of the sequence of original images being synchronized to the agitation profile such that each original image in the sequence of original images corresponds to the transparent vessel being in the same position; generating, via one or more processors, a background image from the sequence of original images; generating, via one or more processors, a resultant image from the background image and an original image in the sequence of original images; and identifying, via one or more processors, a particle in the fluid from the resultant image.

103. Each of the claims of the '239 Patent purports to require one or more imagers.

104. Each of the claims of the '239 Patent purports to require one or more processors to identify a particle in fluid using images acquired by the imager.

U.S. Patent No. 9,856,287 ("the '287 Patent")

105. The '287 Patent is entitled "Refolding Proteins Using a Chemically Controlled Redox State."

106. The '287 Patent issued on January 2, 2018 and expires on June 21, 2030.

107. Claim 1 of the '287 Patent recites:

> A method of refolding proteins expressed in a non-mammalian expression system, the method comprising: contacting the proteins with a preparation that supports the renaturation of at least one of the proteins to a biologically active form, to form a refold mixture, the preparation comprising: at least one ingredient selected from the group consisting of a denaturant, an aggregation suppressor and a protein stabilizer; an amount of oxidant; and an amount of reductant, wherein the amounts of the oxidant and the reductant are related through a thiol-pair ratio and a thiol-pair buffer strength, wherein the thiol-pair ratio is in the range of 0.001-100; and wherein the thiol-pair buffer strength maintains the solubility of the preparation; and incubating the refold mixture so that at least about 25% of the proteins are properly refolded.

COUNT I: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 6,180,391)

108. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-107 of these Counterclaims as if fully set forth herein.

109. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use a translational repressor or a heterologous gene operably linked to a translational repressor, as required by claims 1-8 and 14-17 of the '391 Patent.

110. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use an M2 controlled T7 gene 1 cassette, as required by claims 9-12 of the '391 Patent.

111. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use a system comprising DNA encoding motA and asiA gene sequences, as required by claim 13 of the '391 Patent.

112. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use an MS2-based T4 cassette, as required by claims 18-20 of the '391 Patent.

113. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use the sequence of SEQ ID NO:1, as required by claim 21 of the '391 Patent.

114. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use or the sequence of SEQ ID NO:2, as required by claim 22 of the '391 Patent.

115. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '391 Patent under 35 U.S.C. §§ 271(a), 271(g) or 271(e)(2)(C)(ii).

116. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '391 Patent.

117. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '391 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT II: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 6,180,391)

118. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-117 of these Counterclaims as if fully set forth herein.

119. The claims of the '391 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

120. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '391 Patent.

121. Adello is entitled to a judicial declaration that the claims of the '391 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT III: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 7,083,948)

122. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-121 of these Counterclaims as if fully set forth herein.

123. As demonstrated by at least Adello's aBLA No. 761082, Adello's protein purification process does not use a non-antibody polypeptide purification reagent, as required by the claims of the '948 Patent.

124. As demonstrated by at least Adello's aBLA No. 761082, at no point in Adello's purification process does the protein of interest bind to the polypeptide purification reagent to form a precipitate, as required by the claims of the '948 Patent.

125. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '948 Patent under 35 U.S.C. §§ 271(a), 271(g) or 271(e)(2)(C)(ii).

126. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '948 Patent.

127. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '948 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT IV: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 7,083,948)

128. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-127 of these Counterclaims as if fully set forth herein.

129. The claims of the '948 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

130. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '948 Patent.

131. Adello is entitled to a judicial declaration that the claims of the '948 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT V: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 7,118,884)

132. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-131 of these Counterclaims as if fully set forth herein.

133. As demonstrated by at least Adello's aBLA No. 761082, Adello's cell culture medium does not include any phosphate glasses, as required by the claims of the '884 Patent.

134. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA

No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '884 Patent under 35 U.S.C. §§ 271(a), 271(g) or 271(e)(2)(C)(ii).

135. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '884 Patent.

136. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '884 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT VI: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 7,118,884)

137. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-136 of these Counterclaims as if fully set forth herein.

138. The claims of the '884 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

139. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '884 Patent.

140. Adello is entitled to a judicial declaration that the claims of the '884 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT VII: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 7,384,765)

141. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-140 of these Counterclaims as if fully set forth herein.

142. As demonstrated by at least Adello's aBLA No. 761082, Adello's base cell culture medium is the same in the proliferative phase and the induction phase, and Adello does not add betaine during the induction phase. Adello's cells are therefore not grown "in the absence of betaine" in the proliferative phase and "in the presence of betaine" in the induction phase, as required by the claims of the '765 Patent.

143. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '765 Patent under 35 U.S.C. §§ 271(a), 271(g) or 271(e)(2)(C)(ii).

144. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '765 Patent.

145. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '765 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT VIII: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 7,384,765)

146. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-145 of these Counterclaims as if fully set forth herein.

147. The claims of the '765 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

148. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '765 Patent.

149. Adello is entitled to a judicial declaration that the claims of the '765 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT IX: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 7,427,659)

150. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-149 of these Counterclaims as if fully set forth herein.

151. As demonstrated by at least Adello's aBLA No. 761082, in Adello's protein purification process, the target protein does not pass through the hydrophobic adsorbent in a flow-through fraction without binding to the hydrophobic adsorbent, as required by the claims of the '659 Patent.

152. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '659 Patent under 35 U.S.C. §§ 271(a), 271(g) or 271(e)(2)(C)(ii).

153. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '659 Patent.

154. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '659 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT X: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 7,427,659)

155. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-154 of these Counterclaims as if fully set forth herein.

156. The claims of the '659 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

157. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '659 Patent.

158. Adello is entitled to a judicial declaration that the claims of the '659 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XI: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 7,662,930)

159. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-158 of these Counterclaims as if fully set forth herein.

160. As demonstrated by at least Adello's aBLA No. 761082, Adello does not pass any solution through a Q membrane during its protein purification process, as required by the claims of the '930 Patent.

161. As demonstrated by at least Adello's aBLA No. 761082, Adello does not perform an anion-exchange step following cation exchange, as required by the claims of the '930 Patent.

162. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use a time-dependent pH gradient buffer to elute the target molecule from the cation-exchange-chromatography column, as required by the claims of the '930 Patent.

163. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '930 Patent under 35 U.S.C. §§ 271(a), 271(g) or 271(e)(2)(C)(ii).

164. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '930 Patent.

165. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '930 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XII: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 7,662,930)

166. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-165 of these Counterclaims as if fully set forth herein.

167. The claims of the '930 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

168. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '930 Patent.

169. Adello is entitled to a judicial declaration that the claims of the '930 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XIII: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 7,735,525)

170. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-169 of these Counterclaims as if fully set forth herein.

171. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use thermally insulated apparatuses with its liquid chromatographic separation columns, as required by the claims of the '525 Patent.

172. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '525 Patent under 35 U.S.C. §§ 271(a), 271(g) or 271(e)(2)(C)(ii).

173. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '525 Patent.

174. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '525 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XIV: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 7,735,525)

175. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-174 of these Counterclaims as if fully set forth herein.

176. The claims of the '525 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

177. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '525 Patent.

178. Adello is entitled to a judicial declaration that the claims of the '525 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XV: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 7,781,395)

179. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-178 of these Counterclaims as if fully set forth herein.

180. As demonstrated by at least Adello's aBLA No. 761082, Adello's protein purification process does not involve the use of a combination of citrate and phosphate salts at any time before loading onto the HIC column, as required by the claims of the '395 Patent.

181. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '395 Patent under 35 U.S.C. §§ 271(a), 271(g) or 271(e)(2)(C)(ii).

182. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '395 Patent.

183. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '395 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XVI: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 7,781,395)

184. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-183 of these Counterclaims as if fully set forth herein.

185. The claims of the '395 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

186. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '395 Patent.

187. Adello is entitled to a judicial declaration that the claims of the '395 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XVII: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 8,191,566)

188. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-187 of these Counterclaims as if fully set forth herein.

189. As demonstrated by at least Adello's aBLA No. 761082, Adello does not apply steam to a channel and does not use a pressure-responsive valve at any stage of the manufacturing process, as required by the claims of the '566 Patent.

190. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '566 Patent under 35 U.S.C. §§ 271(a), 271(g) and 271(e)(2)(C)(ii).

191. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '566 Patent.

192. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '566 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XVIII: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 8,191,566)

193. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-192 of these Counterclaims as if fully set forth herein.

194. The claims of the '566 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

195. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '566 Patent.

196. Adello is entitled to a judicial declaration that the claims of the '566 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XIX: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 8,273,707)

197. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-196 of these Counterclaims as if fully set forth herein.

198. As demonstrated by at least Adello's aBLA No. 761082, Adello's protein purification process does not involve mixing a preparation containing the protein with citrate and sulfate, citrate and acetate, or sulfate and acetate at any time before loading it onto a HIC column, as required by the claims of the '707 Patent.

199. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '707 Patent under 35 U.S.C. §§ 271(a), 271(g) and 271(e)(2)(C)(ii).

200. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '707 Patent.

201. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '707 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XX: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 8,273,707)

202. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-201 of these Counterclaims as if fully set forth herein.

203. The claims of the '707 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

204. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '707 Patent.

205. Adello is entitled to a judicial declaration that the claims of the '707 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XXI: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 8,940,878)

206. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-205 of these Counterclaims as if fully set forth herein.

207. As demonstrated by at least Adello's aBLA No. 761082, Adello's protein purification process does not use an affinity resin, as required by claims 1, 2-6, and 18-25 of the '878 Patent.

208. As demonstrated by at least Adello's aBLA No. 761082, Adello's protein purification process does not use a protein expressed in a non-native soluble form, as required by claims 1, 2-6, and 18-25 of the '878 Patent.

209. As demonstrated by at least Adello's aBLA No. 761082, Adello's protein purification process includes at least one additional step after refolding and, therefore, does not

directly apply "the refold solution to a separation matrix," as required by claims 7-25 of the '878 Patent.

210. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '878 Patent under 35 U.S.C. §§ 271(a), 271(g) and 271(e)(2)(C)(ii).

211. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '878 Patent.

212. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '878 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XXII: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 8,940,878)

213. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-212 of these Counterclaims as if fully set forth herein.

214. The claims of the '878 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

215. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '878 Patent.

216. Adello is entitled to a judicial declaration that the claims of the '878 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in

Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XXIII: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 8,952,138)

217. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-216 of these Counterclaims as if fully set forth herein.

218. As demonstrated by at least Adello's aBLA No. 761082, Adello's protein purification process does not refold the protein present in a volume at a concentration of 2.0 g/L or greater, as required by Claim 18 of the '138 Patent.

219. As demonstrated by at least Adello's aBLA No. 761082, in Adello's protein purification process, incubation is not performed under non-aerobic conditions, as required by Claim 18 of the '138 Patent.

220. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '138 Patent under 35 U.S.C. §§ 271(a), 271(g) and 271(e)(2)(C)(ii).

221. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '138 Patent.

222. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '138 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XXIV: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 8,952,138)

223. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-222 of these Counterclaims as if fully set forth herein.

224. The claims of the '138 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

225. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '138 Patent.

226. Adello is entitled to a judicial declaration that the claims of the '138 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XV: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 9,418,416)

227. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-226 of these Counterclaims as if fully set forth herein.

228. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use an imaging system nor receives an image of particles at any stage in its manufacturing process, as required by the claims of the '416 Patent.

229. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '416 Patent under 35 U.S.C. §§ 271(a), 271(g) and 271(e)(2)(C)(ii).

230. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '416 Patent.

231. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '416 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XVI: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 9,418,416)

232. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-231 of these Counterclaims as if fully set forth herein.

233. The claims of the '416 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

234. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '416 Patent.

235. Adello is entitled to a judicial declaration that the claims of the '416 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XVII: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 9,632,095)

236. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-235 of these Counterclaims as if fully set forth herein.

237. As demonstrated by at least Adello's aBLA No. 761082, the device used by Adello in its forced degradation process is not capable of simultaneously generating a plurality of constant temperatures, as required by the claims of the '095 Patent.

238. As demonstrated by at least Adello's aBLA No. 761082, Adello's degradation process is used solely to generate information to be submitted to the FDA for purposes of approval of its aBLA and, therefore, cannot constitute infringement under the safe harbor of 35 U.S.C. § 271(e)(1).

239. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '095 Patent under 35 U.S.C. §§ 271(a), 271(g) and 271(e)(2)(C)(ii).

240. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '095 Patent.

241. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '095 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XXVIII: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 9,632,095)

242. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-241 of these Counterclaims as if fully set forth herein.

243. The claims of the '095 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

244. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '095 Patent.

245. Adello is entitled to a judicial declaration that the claims of the '095 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XXIX: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 9,643,997)

246. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-245 of these Counterclaims as if fully set forth herein.

247. As demonstrated by at least Adello's aBLA No. 761082, Adello's protein purification process does not use a protein expressed in a non-native soluble form, as required by Claims 1-8 and 22 of the '997 Patent.

248. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '997 Patent under 35 U.S.C. §§ 271(a), 271(g) and 271(e)(2)(C)(ii).

249. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '997 Patent.

250. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '997 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XXX: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 9,643,997)

251. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-250 of these Counterclaims as if fully set forth herein.

252. The claims of the '997 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

253. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '997 Patent.

254. Adello is entitled to a judicial declaration that the claims of the '997 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XXXI: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 9,704,239)

255. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-254 of these Counterclaims as if fully set forth herein.

256. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use imagers at any stage in the manufacturing of its aBLA product, as required by the claims of the '239 Patent.

257. As demonstrated by at least Adello's aBLA No. 761082, Adello does not use processors to identify particles in fluid using images acquired by an imager at any stage in the manufacturing of its aBLA product, as required by the claims of the '239 Patent.

258. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '239 Patent under 35 U.S.C. §§ 271(a), 271(g) and 271(e)(2)(C)(ii).

259. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '239 Patent.

260. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '239 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XXXII: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 9,704,239)

261. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-260 of these Counterclaims as if fully set forth herein.

262. The claims of the '239 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

263. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '239 Patent.

264. Adello is entitled to a judicial declaration that the claims of the '239 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

COUNT XXXIII: DECLARATORY JUDGMENT
(NON-INFRINGEMENT OF U.S. PATENT NO. 9,856,287)

265. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-264 of these Counterclaims as if fully set forth herein.

266. For at least the reasons set forth specifically herein, the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and/or enforceable claim of the '287 Patent under 35 U.S.C. §§ 271(a), 271(g) and 271(e)(2)(C)(ii).

267. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding non-infringement of the '287 Patent.

268. Adello is entitled to a judicial declaration that the manufacture, use, sale, offer for sale or importation of Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not, if marketed, infringe, any valid and/or enforceable claim of the '287 Patent under 35 U.S.C. §§ 271(a), 271(g) and/or 271(e)(2)(C)(ii).

COUNT XXXIV: DECLARATORY JUDGMENT
(INVALIDITY OF U.S. PATENT NO. 9,856,287)

269. Adello repeats, realleges, and incorporates by reference, the allegations of Paragraphs 1-268 of these Counterclaims as if fully set forth herein.

270. The claims of the '287 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

271. There is an actual, substantial and continuing justiciable case or controversy between Adello and Amgen regarding invalidity of the '287 Patent.

272. Adello is entitled to a judicial declaration that the claims of the '287 Patent are invalid for failing to comply with one or more of the conditions for patentability as set forth in Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 101, 102, 103, and/or 112.

REQUEST FOR RELIEF

Adello respectfully requests that the Court:

(a) Enter judgment that Adello's aBLA No. 761082 has not infringed, does not infringe, and will not infringe, directly or indirectly, any valid and enforceable claim of the Patents-in-Suit, either literally or under the doctrine of equivalents;

(b) Enter judgment that Adello's Filgrastim Product that is the subject of Adello's aBLA No. 761082 has not infringed, does not infringe, and will not infringe, directly or indirectly, any valid and enforceable claim of the Patents-in-Suit, either literally or under the doctrine of equivalents;

(c) Enter judgment that Adello has not infringed, does not infringe, and will not infringe any claim of the Patents-in-Suit under 35 U.S.C. § 271(a), 35 U.S.C. § 271(g), or 35 U.S.C. § 271(e)(2)(C)(ii);

(d) Enter judgment that each of the claims of the Patents-in-Suit is invalid;

(e) Enter judgment denying Amgen all of the relief requested in the Complaint and dismissing Amgen's claims with prejudice;

(f) Enter judgment that this is an exceptional case within the meaning of 35 U.S.C. § 285 and award Adello its costs and attorneys' fees; and

(g) Grant Adello such other and further relief as the Court deems just in the circumstances.

Dated: May 17, 2018

Respectfully submitted,

RIVKIN RADLER LLP

s/ Gregory D. Miller

Gregory D. Miller
Jenna Z. Gabay
RIVKIN RADLER LLP
21 Main Street, Suite 158
Court Plaza South - West Wing
Hackensack, New Jersey 07601
Telephone: (201) 287-2474
gregory.miller@rivkin.com
jenna.gabay@rivkin.com

Attorneys for Defendant, Adello Biologics, LLC

OF COUNSEL:

Margaret E. Ives
Eric J. Marandett
Sophie F. Wang
CHOATE HALL & STEWART LLP
Two International Place
Boston, MA 02110
(617) 248-5000

LOCAL CIVIL RULE 11.2 CERTIFICATION

The matter in controversy is not the subject of any other action in any other court, or of any pending arbitration or administrative proceeding, except for the following pending actions:

1. *Amgen Inc., Amgen Manufacturing, Limited v. Sandoz Inc., Sandoz International GmbH, Sandoz GmbH*, No. 2018-1551 (Fed. Cir. Feb. 12, 2018) (appeal from *Amgen Inc., Amgen Manufacturing, Limited v. Sandoz Inc., Sandoz International GmbH, Sandoz GmbH*, Case No. 3:14-cv-04741-RS (N.D. Cal. Oct. 24, 2014)).

2. *Amgen Inc., Amgen Manufacturing, Limited v. Sandoz Inc., Sandoz International GmbH, Sandoz GmbH, Lek Pharmaceuticals, d.d.*, No. 2018-1552 (Fed. Cir. Feb 12, 2018) (appeal from *Amgen Inc., Amgen Manufacturing, Limited v. Sandoz Inc., Sandoz International GmbH, Sandoz GmbH, Lek Pharmaceuticals, d.d.*, Case No. 3:16-cv-02581-RS (N.D. Cal. May 12, 2016)).

3. *Amgen Inc., Amgen Manufacturing Limited v. Mylan Inc., Mylan Pharmaceuticals Inc., Mylan GmbH, Mylan N.V.*, Case No. 2:17-cv-01235-MRH (W.D. Pa. Sep. 22, 2017).

4. *Apotex Inc., Apotex Corp. v. Amgen Inc., Amgen Manufacturing Limited, Inter Partes Review No.* IPR2016-01542 (P.T.A.B. Aug. 5, 2016).

Dated: May 17, 2018

Respectfully submitted,

RIVKIN RADLER LLP

s/ Gregory D. Miller

Gregory D. Miller
Jenna Z. Gabay
RIVKIN RADLER LLP
21 Main Street, Suite 158
Court Plaza South - West Wing
Hackensack, New Jersey 07601
Telephone: (201) 287-2474
gregory.miller@rivkin.com
jenna.gabay@rivkin.com

Attorneys for Defendant, Adello Biologics, LLC

OF COUNSEL:

Margaret E. Ives
Eric J. Marandett
Sophie F. Wang
CHOATE HALL & STEWART LLP
Two International Place
Boston, MA 02110
Telephone: (617) 248-5000

LOCAL CIVIL RULE 201.1 CERTIFICATION

I hereby certify that the above-captioned matter is not subject to compulsory arbitration in that the Plaintiffs seek, *inter alia*, equitable relief in their Complaint.

I certify under penalty of perjury that the foregoing is true and correct.

Dated: May 17, 2018

Respectfully submitted,

RIVKIN RADLER LLP

s/ Gregory D. Miller

Gregory D. Miller
Jenna Z. Gabay
RIVKIN RADLER LLP
21 Main Street, Suite 158
Court Plaza South - West Wing
Hackensack, New Jersey 07601
Telephone: (201) 287-2474
gregory.miller@rivkin.com
jenna.gabay@rivkin.com

Attorneys for Defendant, Adello Biologics, LLC

OF COUNSEL:

Margaret E. Ives
Eric J. Marandett
Sophie F. Wang
CHOATE HALL & STEWART LLP
Two International Place
Boston, MA 02110
Telephone: (617) 248-5000

CERTIFICATE OF SERVICE

I hereby certify that on this day I caused a true and correct copy of Defendant's Answer, Defenses, and Counterclaims to be served on all counsel of record via ECF.

By: s/ Gregory D. Miller
Gregory D. Miller

Dated: May 17, 2018