NOT FOR PUBLICATION

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

IMMUNEX CORPORATION, et al., Plaintiffs, v. SANDOZ Inc., et al., Defendants.	Civil Action No.: 16-1118-CCC-MF **OPINION**

CECCHI, District Judge.

I. INTRODUCTION

This matter comes before the Court upon the application of Plaintiffs Immunex Corporation and Amgen Manufacturing, Limited (together, "Plaintiffs" or "Immunex") and Sandoz Inc., Sandoz International GmbH, and Sandoz GmbH (collectively, "Defendants" or "Sandoz") for claim construction, pursuant to Local Patent Rule 4.5. The parties submitted their Joint Claim Construction and Prehearing Statement (ECF No. 119), and filed their Opening briefs (Pls.' Opening Br., ECF No. 133; Defs.' Opening Br., ECF No. 134). Thereafter, the parties submitted a letter requesting that the Court permit certain changes to the Joint Claim Construction Statement (ECF No. 132), and informed the Court that disputes regarding certain claim terms had been resolved (ECF No. 140). After the parties filed their responsive briefs (Pls.' Resp. Br., ECF No. 141; Defs.' Resp. Br., ECF No. 142), they presented their arguments at a *Markman* hearing (*Markman* Tr.). The parties thereafter provided the Court with additional letters. Pls.' Letter, ECF No. 148; Defs.' Letter, ECF No. 147. Having considered the parties' written submissions and oral arguments, the Court sets forth its construction of the disputed term below.

II. BACKGROUND

This patent infringement action was brought by Plaintiffs in connection with Defendants' filing of an Abbreviated Biologics License Application under the Biologics Price Competition and Innovation Act. Plaintiffs assert two sets of related patents, United States Patent Nos. 8,063,182 (the "'182 patent") and 8,163,522 (the "'522 patent") (together, the "Roche Patents"), and United States Patent Nos. 7,915,225 (the "'225 patent"), 8,119,605 (the "'605 patent"), and 8,722,631 (the "'631 patent") (collectively, the "Psoriasis Patents").

Before the Court is the parties' dispute over the construction of one claim term in the '522 patent.[1] The disputed term is: "wherein the polynucleotide encodes a protein consisting of."

III. LEGAL STANDARD

Claim construction is a matter of law for the Court to decide. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 391 (1996). "It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)).

The Court begins a claim construction analysis by examining the intrinsic evidence, which includes the claims, the specification, and the prosecution history. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). If the claim term remains unclear or ambiguous after examining the intrinsic evidence, the Court may turn to extrinsic evidence, *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1216 (Fed. Cir. 1995), which "consists of all

[1] The parties previously disputed the construction of certain claim terms of the Psoriasis Patents, specifically, "psoriasis," "psoriatic arthritis," "ordinary psoriasis," "plaque psoriasis," and "patient." On November 28, 2017, the parties notified the Court that construction of those terms was no longer necessary. ECF No. 293.

evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995).

A claim construction analysis "must begin and remain centered on the claim language itself." *Innova*, 381 F.3d at 1116. "[I]t is that language that the patentee chose to use to particularly point[ ] out and distinctly claim[ ] the subject matter which the patentee regards as his invention." *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (internal quotation marks and citation omitted). The claims themselves and the context in which a term is used within the claims can "provide substantial guidance as to the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314. In addition, other claims of the patent may be useful in construing a claim term, as "claim terms are normally used consistently throughout the patent." *Id.* Similarly, claims that differ from each other may provide insight into how a term should be read. *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991).

"The claims, of course, do not stand alone. Rather, they are part of 'a fully integrated written instrument'" called the "specification." *Phillips*, 415 F.3d at 1315 (quoting *Markman*, 52 F.3d at 978). The Federal Circuit has said that "claims must be read in view of the specification." *Markman*, 52 F.3d at 979. For this reason, "the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Vitronics*, 90 F.3d at 1582. Therefore, after examining the claims, "it is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning." *Id.* "For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims." *Markman*, 52 F.3d at 979.

Finally, the Court should also examine the prosecution history, if it is in evidence. *Phillips*, 415 F.3d at 1317. The prosecution history is the complete record of the proceedings before the United States Patent and Trademark Office ("USPTO"), and "can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*; *see also Sunovion Pharm., Inc. v. Teva Pharm. USA, Inc.*, 731 F.3d 1271, 1276 (Fed. Cir. 2013) (noting that the district court was correct in relying on prosecution statements when the specification contained no reference to the disputed term).

There is a heavy presumption that a claim term conveys its ordinary and customary meaning, which "is the meaning that the term would have to a person of ordinary skill in the art[2] in question at the time of the invention." *Phillips*, 415 F.3d at 1313. But a patentee may overcome this presumption and choose "to be his or her own lexicographer by clearly setting forth an explicit definition for a claim term." *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 990 (Fed. Cir. 1999); *see also Schering Corp. v. Amgen Inc.*, 222 F.3d 1347, 1353 (Fed. Cir. 2000); *Markman*, 52 F.3d at 979-80.

"[I]deally there should be no 'ambiguity' in claim language to one of ordinary skill in the art that would require resort to evidence outside the specification and prosecution history." *Markman*, 52 F.3d at 986. However, if there remains ambiguity, the Court may consult extrinsic evidence. Extrinsic evidence is generally "less significant than the intrinsic record in determining the legally operative meaning of disputed claim language." *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004) (quotations omitted). In addition, extrinsic evidence ordinarily

[2] In this Opinion, the Court will refer to a person of ordinary skill in the art as a "POSA." This term includes all iterations of this concept, such as "a person having ordinary skill in the art," "one of ordinary skill in the art," etcetera.

should not contradict intrinsic evidence. *Phillips*, 415 F.3d at 1322-23. Therefore, extrinsic evidence must be viewed within the context of intrinsic evidence. *Id.* at 1319.

Consistent with the law of claim construction as discussed above, this Court will first look to the language of the disputed claim term itself in the context of the claim in which it appears as well as the other claims in the patent. The Court will then look to the patent specification and prosecution history and read the claim in view of the intrinsic evidence. Finally, to the extent necessary, the Court will look to the extrinsic evidence (such as expert declarations) to resolve any remaining ambiguities.

IV. DISCUSSION

On April 24, 2012, the USPTO issued the '522 patent, entitled "Human TNF Receptor." The '522 patent has three independent claims. Independent claims 1 and 7 are both method claims. Each includes a step reciting "culturing a host cell comprising a polynucleotide, wherein the polynucleotide encodes a protein consisting of" followed by two listed elements. Claim 1 is representative:

> 1. A method comprising the steps of:
>
> (a) culturing a host cell comprising a polynucleotide, wherein the polynucleotide encodes a protein consisting of:
>
> (i) the extracellular region of an insoluble human TNF receptor, wherein the insoluble human TNF receptor has an apparent molecular weight of about 75 kilodaltons as determined on a non-reducing SDS-polyacrylamide gel and comprises the amino acid sequence LPAQVAFXPYAPEPGSTC (SEQ ID NO: 10), and
>
> (ii) all of the domains of the constant region of a human IgG immunoglobulin heavy chain other than the first domain of said constant region, and
>
> (b) purifying an expression product of the polynucleotide from the cell mass or the culture medium.

'522 patent at 45:45-62.

Claims 2 and 3 are each dependent on claim 1, and claims 8, 9, and 10 are directly or indirectly dependent on claim 7. The parties have requested that the Court construe the phrase "wherein the polynucleotide encodes a protein consisting of." The parties' proposed constructions for this claim term are as follows:

Claim	Claim Term	Plaintiffs' Proposed Construction	Defendants' Proposed Construction
'522 Patent Claims 1-3, 7-10	"wherein the polynucleotide encodes a protein consisting of"	"wherein the polynucleotide contains the genetic information for a protein consisting of"	"the polynucleotide encodes only the protein and includes no other amino acid sequence"

The Roche Patents relate to a fusion protein that includes portions of a tumor necrosis factor ("TNF") receptor protein and portions of the human antibody IgG. *See, e.g.*, Declaration of Dr. Randolph Wall ("Wall") ¶ 30, ECF No. 133-3; Declaration of Kathryn E. Stein, Ph.D. ("Stein") ¶ 3, ECF No. 134-1; '522 patent at 2:37-43. The fusion protein is made by inserting a DNA sequence into a cell, growing cells containing that DNA, and using the cells' natural mechanisms to produce the fusion protein.

A protein is made up of amino acid residues. These amino acids are covalently bonded to each other in a long strand. The strands can then fold up into complex structures, become associated with other chains of amino acids, or undergo various other modifications. *See* Wall ¶¶ 36-37; Stein ¶¶ 22, 41; Defs.' Letter at 5. The order of the amino acids in a protein is determined based on the sequence of nucleotides in the segment of DNA that encodes that protein. *See* Wall ¶¶ 36, 73-76. While certain nucleotide sequences "code" for amino acids, other nucleotide sequences can perform other functions, including serving as "promoters" and "enhancers." *See id.* ¶ 77; Defs.' Letter at 4.

The introductory phrase "consisting of" in a patent generally means that the described element must include what follows the "consisting of" phrase and not include anything else. *See Vehicular Techs. Corp. v. Titan Wheel Int'l, Inc.*, 212 F.3d 1377, 1382-83 (Fed. Cir. 2000). The parties do not appear to dispute, and the Court agrees, that the use of the phrase "consisting of" in the claim phrase limits the protein encoded by the polynucleotide. Defs.' Letter at 4 (stating that "the protein that can be encoded *consists of* two—and only two—fragments" (emphasis in original)); Pls.' Letter at 2 ("[T]he 'consisting of' language places limits only on the protein that must be encoded.").

Defendants argue, however, that the polynucleotide cannot contain nucleic acid sequences that code for amino acid sequences other than those listed in the claim. Specifically, Defendants argue that the polynucleotide cannot contain nucleic acid sequences that code for a signal peptide that is translated in the same polypeptide chain as the two listed elements (i.e., (a)(i) and (a)(ii) of claim 1 of the '522 patent). *See* Defs.' Letter at 4. Defendants argue that this creates a "protein" that contains the listed elements *and* additional elements, namely the amino acid residues that comprise the signal peptide. Defendants further assert that it is this amino acid sequence that must be considered in assessing the scope of the claim, regardless of any subsequent modifications. Specifically, they assert that the word "protein" refers to the initial product, post translation, as distinct from the term "expression product," which appears in step (b) of claims 1 and 7 and which results from any post-translational modifications to the protein. *Id.* at 4-5 ("[T]he word 'protein' in step (a) refers to the protein that is . . . produced when the cell translates the claimed polynucleotide. This 'protein' may thereafter be modified by the cell in various ways . . . before it becomes the final 'expression product' that is isolated in step (b) of the claim.").

Plaintiffs respond that there is nothing in the claim language that prohibits the recited polynucleotide from coding for other amino acid sequences, particularly in light of the open "comprising" language occurring earlier in the claims. *See Markman* Tr. at 15:4-7 (noting that the claim "allows the polynucleotide to encode a protein consisting of the fusion protein but also allows that polynucleotide to encode for other things neighboring that fusion protein"). Accordingly, Plaintiffs assert that the polynucleotide can contain nucleic acid sequences that code for a signal peptide, and that signal peptide may be translated along with the listed elements (a)(i) and (a)(ii) as part of the same polypeptide chain without being part of the "protein," which consists only of the listed elements, particularly in light of the subsequent removal of the signal peptide. Pls.' Resp. Br. at 7-10; Pls.' Letter at 2-3. To support this position, Plaintiffs first note that step (b) of the claimed method contemplates the purification of the expression product of the polynucleotide from either "the cell mass" or "the culture medium." Pls.' Letter at 2-3. Plaintiffs argue that in order for the expression product to be in the culture medium, it must first be secreted from the cell, a step which requires the use of a signal peptide. Plaintiffs further note that Examples 8 and 11 in the '522 patent explicitly contemplate the use of a signal peptide. Pls.' Resp. Br. at 11.

Based on its review of the claim language, the Court is not persuaded by Defendants' argument that the phrase "consisting of" limits the earlier-recited "polynucleotide" term in the claim *in addition to* the immediately-proceeding "protein" term. Based on the precise location of the "consisting of" transitional phrase in the claim, the Court declines to read in a limitation that the entire polynucleotide encodes "only" the protein sequence of (a)(i) and (a)(ii) and cannot encode any additional amino acids. In addition, it appears that Defendants read the disputed claim language in isolation rather than in the context of the entire claim, and have not provided the Court

a sufficient reason to disregard as "legally irrelevant" to the instant dispute step (b), which pertains to the purification of the "expression product of the polynucleotide." *See Markman* Tr. at 41:17-19.

Plaintiffs' proposed construction is also consistent with the '522 patent specification, which contemplates the inclusion of a signal peptide. *See* '522 patent at 17:38-42 ("The nucleotide sequence and the amino acid sequence derived therefrom for the 55 kD TNF-BP and its signal peptide (amino acid '-28' to amino acid '0') is given in FIG. 1 using the abbreviations for bases such as amino acids usual in the state of the art."); *id.* at 18:45-49 (describing example where the cDNA encoding the extracellular region of the 55 kD TNF receptor encodes "amino acids -28 to 182 according to Fig. 1" where amino acids -28 to 0 are the signal peptide). In Example 11, the "cDNA fragment coding for the extracellular region of the 55 kDa TNF-BP" also includes the DNA sequence coding for the signal peptide of the 55 kDa TNF receptor. *Id.* at 20:66-21:33. Defendants do not appear to have cited to any portion of the specification to adequately support their proposed construction. Moreover, the Court notes that neither party has cited to any portion of the '522 patent's prosecution history that supports its proposed construction or that would otherwise support a different outcome.

The Court finds the intrinsic evidence sufficient to support its decision to adopt Plaintiffs' construction. However, in the interest of thoroughness, the Court notes that the extrinsic evidence in the form of an expert declaration submitted by Plaintiffs provides additional support. As discussed above, step (b) of the claimed method contemplates the purification of the "expression product" of the polynucleotide from "the culture medium." Dr. Wall opines that a POSA would have understood that the temporary attachment of a signal peptide to the protein would be needed to facilitate secretion of the protein outside the cell and into the culture medium, and would be

removed prior to secretion of the protein into the culture medium and, thus, prior to the purification process recited in step (b). *See* Wall ¶¶ 26-27, 78, 118-21. Moreover, in his analysis of Example 11 in the '522 patent specification, Dr. Wall also notes that the "expression product" is "secreted" by the host cells into the culture medium. *Id.* ¶ 121. Thus, because the claimed invention contemplates further cellular activity after the protein is made (e.g., secretion of the protein), the polynucleotide can also encode a signal peptide for temporary attachment to the protein. Defendants have not offered extrinsic evidence to sufficiently support their construction or to rebut Plaintiffs' construction.

Accordingly, the Court declines to adopt Defendants' position and instead accepts Plaintiffs' proposed construction.

V. CONCLUSION

The Court construes the disputed claim term of the '522 patent as follows:

Claim	Disputed Claim Term	Court's Construction
'522 Patent Claims 1-3, 7-10	"wherein the polynucleotide encodes a protein consisting of"	"wherein the polynucleotide contains the genetic information for a protein consisting of"

An appropriate Order accompanies this Opinion.

Dated: August 20, 2018

HON. CLAIRE C. CECCHI
United States District Judge