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6 IN THE UNITED STATES DISTRICT COURT  
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8 FOR THE NORTHERN DISTRICT OF CALIFORNIA

9 GENENTECH, INC. and ROCHE PALO  
10 ALTO LLC,

11 Plaintiffs,

No. C 11-01925 JSW  
No. C 11-02410 JSW

12 v.

**CLAIM CONSTRUCTION ORDER**

13 SANDOZ INC.,

14 Defendant.

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GENENTECH INC. and ROCHE PALO  
ALTO LLC,

16 Plaintiffs,

17 v.

18 APOTEX INC.,

19 Defendant.

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22 The Court has been presented with a technology tutorial and briefing leading up to a  
23 hearing pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). This Order  
24 construes the single claim term selected by the parties, which appears in claim one of the patent  
25 at issue in this case, United States Patent No. 6,083,953 (“the ’953 Patent”) which protects the  
26 proscripton drug VALCYTE®, containing the active ingredient valganciclovir hydrochloride.  
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1 The prescription medication is employed by patients with immune deficiency, including  
2 recipients of certain organ transplants and patients suffering from advanced HIV infection.  
3 These patients are susceptible to infection by viruses such as cytomegalovirus, with potentially  
4 devastating consequences, such as blindness and even death. Prior to the invention, the  
5 treatment was ganciclovir which has limited bioavailability when given orally, so it was  
6 administered intravenously or by injection directly into the eye. The inventors of the '953  
7 Patent made a compound which combined one molecule of ganciclovir joined by an ester  
8 linkage to one molecule of the amino acid L-valine. This form of ganciclovir is well absorbed  
9 orally and is metabolized into the bloodstream for effective treatment of cytomegalovirus in  
10 immune-compromised patients.

11 The parties dispute the meaning of one phrase – “in crystalline form” – that appears in  
12 claim 1 of the '953 Patent. The Court shall address additional facts as necessary in the  
13 remainder of this Order.

#### 14 ANALYSIS

##### 15 A. Legal Standard.

16 “It is a bedrock principle of patent law that the claims of a patent define the invention to  
17 which the patentee is entitled the right to exclude.” *Innova/Pure Water, Inc. v. Safari Water*  
18 *Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004). The interpretation of the scope and  
19 meaning of disputed terms in patent claims is a question of law and exclusively within the  
20 province of a court to decide. *Markman*, 517 U.S. at 372. The inquiry into the meaning of the  
21 claim terms is “an objective one.” *Innova/Pure Water*, 381 F.3d at 1116. As a result, when a  
22 court construes disputed terms, it “looks to those sources available to the public that show what  
23 a person of skill in the art would have understood the disputed claim language to mean.” *Id.* In  
24 most cases, a court’s analysis will focus on three sources: the claims, the specification, and the  
25 prosecution history. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995)  
26 (en banc), *aff’d*, 517 U.S. 370 (1996). However, on occasion, it is appropriate to rely on  
27 extrinsic evidence regarding the relevant scientific principles, the meaning of technical terms,  
28 and the state of the art at the time at the time the patent issued. *Id.* at 979-981.

1           The starting point of the claim construction analysis is an examination of the specific  
2 claim language. A court’s “claim construction analysis must begin and remain centered on the  
3 claim language itself, for that is the language that the patentee has chosen to particularly point  
4 out and distinctly claim the subject matter which the patentee regards as his invention.”  
5 *Innova/Pure Water*, 381 F.3d at 1116 (internal quotations and citations omitted). Indeed, in the  
6 absence of an express intent to impart a novel meaning to a term, an inventor’s chosen language  
7 is given its ordinary meaning. *York Prods., Inc. v. Cent. Tractor Farm & Family Center*, 99  
8 F.3d 1568, 1572 (Fed. Cir. 1996). Thus, “[c]laim language generally carries the ordinary  
9 meaning of the words in their normal usage in the field of the invention.” *Invitrogen Corp. v.*  
10 *Biocrest Mfg., L.P.*, 327 F.3d 1364, 1367 (Fed. Cir. 2003); *see also Renishaw v. Marposs*  
11 *Societa’ per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998) (recognizing that “the claims define  
12 the scope of the right to exclude; the claim construction inquiry, therefore, begins and ends in  
13 all cases with the actual words of the claim”). A court’s final construction, therefore, must  
14 accord with the words chosen by the patentee to mete out the boundaries of the claimed  
15 invention.

16           The court should also look to intrinsic evidence, including the written description, the  
17 drawings, and the prosecution history, if included in the record, to provide context and  
18 clarification regarding the intended meaning of the claim terms. *Teleflex, Inc. v. Ficosa N. Am.*  
19 *Corp.*, 299 F.3d 1313, 1324-25 (Fed. Cir. 2002). The claims do not stand alone. Rather, “they  
20 are part of ‘a fully integrated written instrument.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315  
21 (Fed. Cir. 2005) (en banc) (quoting *Markman*, 52 F.3d at 978). The specification “may act as a  
22 sort of dictionary, which explains the invention and may define terms used in the claims.”  
23 *Markman*, 52 F.3d at 979. The specification also can indicate whether the patentee intended to  
24 limit the scope of a claim, despite the use of seemingly broad claim language. *SciMed Life Sys.,*  
25 *Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1341 (Fed. Cir. 2001) (recognizing  
26 that when the specification “makes clear that the invention does not include a particular feature,  
27 that feature is deemed to be outside the reach of the claims of the patent, even though the  
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1 language of the claims, read without reference to the specification, might be considered broad  
2 enough to encompass the feature in question”).

3 Intent to limit the claims can be demonstrated in a number of ways. For example, if the  
4 patentee “acted as his own lexicographer,” and clearly and precisely “set forth a definition of  
5 the disputed claim term in either the specification or prosecution history,” a court will defer to  
6 that definition. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). In  
7 order to so limit the claims, “the patent applicant [must] set out the different meaning in the  
8 specification in a manner sufficient to give one of ordinary skill in the art notice of the change  
9 from ordinary meaning.” *Innova/Pure Water*, 381 F.3d at 1117. In addition, a court will adopt  
10 an alternative meaning of a term “if the intrinsic evidence shows that the patentee distinguished  
11 that term from prior art on the basis of a particular embodiment, expressly disclaimed subject  
12 matter, or described a particular embodiment as important to the invention.” *CCS Fitness*, 288  
13 F.3d at 1367. For example, the presumption of ordinary meaning will give way where the  
14 “inventor has disavowed or disclaimed scope of coverage, by using words or expressions of  
15 manifest exclusion or restriction, representing clear disavowal of claim scope.” *Gemstar-TV*  
16 *Guide Int’l Inc. v. ITC*, 383 F.3d 1352, 1364 (Fed. Cir. 2004). The disclaimer in the prosecution  
17 history must be “clear and unmistakable.” *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314,  
18 1325-26 (Fed. Cir. 2003). Likewise, the specification may be used to resolve ambiguity “where  
19 the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to  
20 permit the scope of the claim to be ascertained from the words alone.” *Teleflex*, 299 F.3d at  
21 1325.

22 However, limitations from the specification (such as from the preferred embodiment)  
23 may not be read into the claims, absent the inventor’s express intention to the contrary. *Id.* at  
24 1326; *see also CCS Fitness*, 288 F.3d at 1366 (“[A] patentee need not ‘describe in the  
25 specification every conceivable and possible future embodiment of his invention.’”) (quoting  
26 *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1344 (Fed. Cir. 2001)). To protect against this  
27 result, a court’s focus should remain on understanding how a person of ordinary skill in the art  
28 would understand the claim terms. *Phillips*, 415 F.3d at 1323.

1 If the analysis of the intrinsic evidence fails to resolve any ambiguity in the claim  
2 language, a court then may turn to extrinsic evidence, such as expert declarations and testimony  
3 from the inventors. *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1367 (Fed. Cir. 2003)  
4 (“When an analysis of *intrinsic* evidence resolves any ambiguity in a disputed claim term, it is  
5 improper to rely on extrinsic evidence to contradict the meaning so ascertained.”) (emphasis in  
6 original). When considering extrinsic evidence, a court should take care not to use it to vary or  
7 contradict the claim terms. Rather, extrinsic evidence is relied upon more appropriately to  
8 assist in determining the meaning or scope of technical terms in the claims. *Vitronics Corp. v.*  
9 *Conceptronic, Inc.*, 90 F.3d 1576, 1583-84 (Fed. Cir. 1996).

10 Dictionaries also may play a role in the determination of the ordinary and customary  
11 meaning of a claim term. In *Phillips*, the Federal Circuit reiterated that “[d]ictionaries or  
12 comparable sources are often useful to assist in understanding the commonly understood  
13 meanings of words....” *Phillips*, 415 F.3d at 1322. The *Phillips* court, however, also  
14 admonished that district courts should be careful not to allow dictionary definitions to supplant  
15 the inventor’s understanding of the claimed subject matter. “The main problem with elevating  
16 the dictionary to ... prominence is that it focuses the inquiry on the abstract meaning of the  
17 words rather than on the meaning of claim terms within in the context of the patent.” *Id.* at  
18 1321. Accordingly, dictionaries necessarily must play a role subordinate to the intrinsic  
19 evidence.

20 In addition, a court has the discretion to rely upon prior art, whether or not cited in the  
21 specification or the file history, but only when the meaning of the disputed terms cannot be  
22 ascertained from a careful reading of the public record. *Vitronics*, 90 F.3d at 1584. Referring to  
23 prior art may make it unnecessary to rely upon expert testimony, because prior art may be  
24 indicative of what those skilled in the art generally understood certain terms to mean. *Id.*

25 **B. Claim Construction.**

26 The parties dispute the meaning of one phrase – “in crystalline form” – that appears in  
27 claim 1 of the ’953 Patent. Claim one recites:  
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What is claimed is:

1. The compound 2-(2-amino-1,6-dihydro-6-oxo-purin-9-yl)methoxy-3-hydroxy-1-propanyl-L-valinate hydrochloride [valganciclovir hydrochloride] *in crystalline form*.

(’953 Patent at 30:41:45.)

Plaintiffs Genentech and Roche Palo Alto argue that the phrase “in crystalline form” must be construed by this Court to mean “in a physical form having molecules arranged in a regularly repeating three dimensional pattern.” (Joint Claim Construction and Pre-hearing Statements at 2.) Defendants Apotex Inc. and Sandoz, Inc., on the other hand, argue that the phrase should be construed to mean “*manufactured or prepared in a stable, solid physical form having molecules arranged in a regularly repeating three dimensional pattern (excluding any amorphous, semi-amorphous, partially ordered, or unstable forms)*.” (*Id.*)<sup>1</sup>

There is no dispute that the crystalline state is characterized by a highly ordered arrangement of molecules in a three dimensional pattern. The key dispute between the parties is the timing of the compound’s crystallinity. Defendants contend that the claim term “in crystalline form” requires that the patented valganciclovir hydrochloride be produced or manufactured in a stable crystalline form. Plaintiff argues that the term should be given its clear, unambiguous scientific meaning, without importation of a timing limitation or recitation of a process step with regard to the compound’s method of manufacture or preparation. The Court finds that the invention specifically claims the crystalline form of the material and the inventors, in the course of the prosecution history, clearly distinguish prior art in which valganciclovir hydrochloride was disclosed in amorphous, not crystalline, form.

**1. The Specification Requires the Material in Stable, Crystalline Form.**

The Court is persuaded that the specification of the ’953 Patent makes clear that the claim term “in crystalline form” requires that the drug be formulated as such. The specification clearly distinguishes crystalline from noncrystalline material based on the ease with which one can manufacture a stable oral dosage. The specification distinguishes the prior art which

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<sup>1</sup> The italicized portions are requested in addition by Apotex, Inc. Both defendants, however, agreed to abandon the term “solid” as redundant. The Court finds both the italicized phrase and the term “solid” to be unnecessary.

1 consisted in noncrystalline materials as “difficult to process for the manufacture of oral  
2 pharmaceutical dosage forms.” (’953 Patent at 3:32-34.)

3       The specification further discloses that the task of preparing the compound in crystalline  
4 form carries a “decisive advantage” over the prior art “non-crystalline materials” because  
5 “pharmaceutical formulations can be more easily produced with a crystalline material. A  
6 crystalline material can be processed efficiently and is susceptible of being more reproducibly  
7 characterized than a non-crystalline material, and the quality of the crystalline materials of the  
8 invention can be much more readily ascertained than that of non-crystalline materials.” (*Id.* at  
9 21:21-31.) Thus, once again, the specification makes a clear distinction between the purported  
10 invention which requires the material to be in crystalline form in order to create a stable oral  
11 dosage. It is clear from the language of the specification that the invention sought to solve the  
12 pre-existing problem of the drug in a non-stable oral formulation. *See CVI/Beta Ventures, Inc.*  
13 *v. Tura LP*, 112 F.3d 1146, 1160 (Fed. Cir. 1997) (“In construing claims, the problem the  
14 inventor was attempting to solve, as discerned from the specification and the prosecution  
15 history, is a relevant consideration.”) (citations omitted). Although the claim term is quite  
16 broad, the specifications make clear that the broad inclusion of both metastable amorphous  
17 materials would be an error. *See SciMed Life*, 242 F.3d at 1341 (noting that when the  
18 specification “makes clear that the invention does not include a particular feature, that feature is  
19 deemed to be outside the reach of the claims in the patent, even though the language of the  
20 claims, read without reference to the specification, might be considered broad enough to  
21 encompass the feature in question”).

22       In this case, the Court is persuaded that the specification is clear that the invention was  
23 intended to claim a stable form of valganciclovir hydrochloride at its inception in order to  
24 provide a stable oral dosage of the drug. In this regard, the Court also finds that the prosecution  
25 history is elucidating in that it clearly disavows the prior incarnation of the drug in its  
26 amorphous, or non-crystalline, form.

1                   **2. The Prosecution History Clearly Disclaims Amorphous Prior Art.**

2                   During the prosecution of the '953 Patent, the inventors initially sought to obtain claims  
3 that were broader, to include valganciclovir hydrochloride without regard to whether it was  
4 initially in its amorphous or crystalline form. However, the patent examiner rejected such broad  
5 claims under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,043,339  
6 ("Beauchamp Patent"), which claimed the material in its amorphous form. The patent examiner  
7 only granted the application of the '953 Patent upon the addition of the technical requirement  
8 that the valganciclovir hydrochloride be "in crystalline form."

9                   In response to the rejection for anticipation, the applicants of the '953 Patent disclaimed  
10 the previous amorphous incarnation of valganciclovir described in the Beauchamp Patent. The  
11 applicants of the '953 Patent, in an explicit effort to distinguish their claimed invention from the  
12 amorphous prior art, amended their application to state:

13                   However, there is a more fundamental aspect to be considered. The bis esters  
14 described by Beauchamp are non-crystalline materials which are difficult to  
15 process for the manufacture of oral pharmaceutical dosage forms ....  
16 Crystallinity of a drug is not only important for achieving better purification of  
17 the mono-L-valyl ester itself ... but also is decisive for the stability of oral  
18 formulations.

19                   ...  
20 For the drug formulator it is thus preferable to work with the form which has the  
21 lowest energy state, and therefore, is the most stable state, which is a crystalline  
22 rather than an amorphous form. Crystallization of a metastable form is well  
23 recognized as being catastrophic to the quality of an oral dosage form, such as a  
24 tablet. Use of a stable crystalline form avoids this risk.

25 (Declaration of Andy J. Miller ("Miller Decl."), Ex. 5 at 14-16.) The applicants specifically  
26 explained that the original amorphous form of valganciclovir was distinguishable in that its  
27 unstable form, even when subsequently crystallized, was "catastrophic" to the quality of the  
28 claimed invention's oral dosage form.

                  In addition, the applicants specifically argued to the patent examiner that even if prior  
art amorphous compounds later converted to crystalline form, which often happened, the  
resulting crystalline forms would not anticipate the "stable" crystalline form. The applicants  
contended that later-converted, as opposed to properly manufactured, crystalline forms are  
inherently unstable. The applicants clearly acknowledged the common physiological



conversion of amorphous to crystalline states, and claimed the benefits of the crystalline state in origin. The applicants, in response to the initial rejection of their broader claims, stated:

It is well-known that drugs are most easily purified through a process of controlled re-crystallization, which allows growth of pure crystals from a saturated solution. Precipitation of an amorphous form does not offer this advantage of purification of the drug as it is isolated. A crystalline form of an active ingredient is therefore preferred as offering a more precisely purified material than an amorphous form.

...

If the active drug only occurs in amorphous and thus metastable form, there is a high risk over the expected length of the shelf life of a product that it will convert to a crystalline form, which is likely to have physico-chemical, pharmaceutical and biological properties that are changed in comparison with the active substance in amorphous form.

(*Id.* at 15-16.)

In their efforts to distinguish the prior art, the applicants of the '953 Patent clearly disavowed the prior art as either an amorphous form of valganciclovir or an amorphous form that can later convert to crystalline form. The applicants stated that use of a stable crystalline, as opposed to a crystalline form that was initially amorphous, avoids the risk of catastrophic quality of the oral dosage form. Again, the applicants' amendment reads:

For example, tablet disintegration or dissolution are pharmacopoeial properties which are expected to remain constant over the entire shelf life of a tablet. If the phase change occurs, it is most likely that the tablet with the crystalline active substance will show a tablet disintegration or dissolution behavior different from that of a tablet with an amorphous active substance.

(*Id.* at 16.)

Accordingly, the Court is compelled to adopt the narrow construction of a claim term where, as here, the inventors, in order to overcome a prior art rejection, necessarily disclaimed an examiner's interpretation of a limitation. *See Southwall Technologies, Inc. v. Cardinal IG Vo.*, 54 F.3d 1570, 1576-77 (Fed. Cir. 1995) (holding that patentees limited their claim scope where they necessarily disclaimed an examiner's interpretation of a limitation in order to overcome a prior art rejection); *see also Omega Eng'g*, 334 F.3d at 1324 ("[W]here the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender.")

1 Throughout the prosecution history, the applicants clearly emphasized the criticality of a  
2 crystalline form and urged that the ability to process the valganciclovir hydrochloride in its  
3 stable crystalline form was both preferable and critical to its “pharmaceutical processing into  
4 dosage forms.” (*Id.* at 16-17.) The applicants repeatedly disclaimed the prior art which “does  
5 not include *crystalline* GMVH [valganciclovir], since Beauchamp shows no compounds in  
6 crystalline form. ... none of the compounds prepared by Beauchamp were stated to have been  
7 prepared in crystalline form, so there is no suggestion in Beauchamp of the inherent  
8 crystallinity of such compounds.” (Miller Decl., Ex. 13 at 4 (emphasis in original).) It was  
9 only through the addition of the specific term at issue – “in crystalline form” – that the patent  
10 examiner ultimately decided to issue the ’953 Patent. It was only upon the applicants’ clear  
11 disavowal of the pre-existing amorphous form – and an amorphous form that could convert to  
12 crystalline form – that the patent was granted.

13 During oral argument on the claims construction, Plaintiffs contended that the applicants  
14 did not need to differentiate their crystalline form of valganciclovir as crystalline at inception  
15 because the Beauchamp Patent simply did not anticipate a crystalline form at all and only  
16 explicitly claimed the amorphous form of valganciclovir. However, beside the prosecution  
17 history which clearly disclaims metastable forms of valganciclovir, including amorphous forms  
18 that convert to crystalline, the Court finds that the claims in the patent serve the function of  
19 public notice. The claims are supposed to provide to the public what it is that the patentees  
20 invented in exchange for the patentee’s rights to exclude other people from practicing their  
21 invention. In addition, the prosecution history, replete with the forfeiture of the broad claims  
22 definition proposed by Plaintiffs, is “inimical to the public notice function provided by the  
23 prosecution history.” *Hockerson-Halberstadt, Inc. v. Avia Group International, Inc.*, 222 F.3d  
24 951, 957 (Fed. Cir. 2000). Prosecution disclaimer “promotes the public notice function of the  
25 intrinsic evidence and protects the public’s reliance on definitive statements made during  
26 prosecution.” *Omega Eng’g*, 334 F.3d at 1323 (citing *Digital Biometrics, Inc. v. Identix, Inc.*,  
27 149 F.3d 1335, 1347 (Fed. Cir. 1998)). Once a patent is issued, the claims define the  
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1 boundaries of its protection and give notice to the public of those boundaries. *See, e.g., Model*  
2 *Jury Instructions: Patent Litigation*, 2005 A.B.A. Sec. Litigation 7–9.

3 The Court is persuaded that it is not reasonable to assume that the patent granted rights  
4 to an amorphous form of valganciclovir which at some unknown point and by unknown process  
5 metastasizes to crystalline form. This would undercut the essential and stated purpose of the  
6 invention of valganciclovir hydrochloride in crystalline form specifically protected by the '953  
7 Patent. Accordingly, the Court construes the term “in crystalline form” to mean: “Prepared in a  
8 stable physical form having molecules arranged in a regularly repeating three dimensional  
9 pattern.”

### 10 CONCLUSION

11 Based on the analysis set forth above, the Court adopts the foregoing construction of the  
12 disputed phrase. The parties are ordered to submit a further joint case management report  
13 pursuant to Patent Standing Order ¶ 13 by no later than August 3, 2012.

14  
15 **IT IS SO ORDERED.**

16 Dated: July 9, 2012

  
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JEFFREY S. WHITE  
UNITED STATES DISTRICT JUDGE