

United States District Court,  
D. Delaware.

**NOVARTIS PHARMACEUTICALS CORPORATION,**  
et al. Plaintiff.

v.

**ABBOTT LABORATORIES,**  
Defendant.

No. CIV.A.00-784-JJF

**July 11, 2002.**

**Background:** Owner of patents for different formulations of pharmaceutical drug Cyclosporin sued competitor for infringement.

**Holdings:** Construing claims, the District Court, Farnan, J., held that:

- (1) "lipophilic phase component" had to include at least one excipient meeting certain criteria, and
- (2) "surfactant" encompassed both hydrophilic and lipophilic surfactants.

Claims construed.

See also 2003 WL 22928614, 294 F.Supp.2d 557.

5,342,625, 5,963,017, 6,007,840. Construed.

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***MEMORANDUM OPINION***

**FARNAN, District Judge.**

This action was brought by Plaintiffs, Novartis Pharmaceuticals Corporation, Novartis AG, Novartis Pharma AG, and Novartis International Pharmaceutical, Ltd. (collectively "Novartis"), against Defendant, Abbott Laboratories (hereinafter "Abbott"), alleging infringement of its United States Patent Nos. 5,342,625 (the "'625 Patent"), 6,007,840 (the "'840 Patent"), and 5,963,017 (the "'017 Patent"). The issue currently before the Court is the interpretation of certain claim language of the three patents-in-suit. The parties briefed their respective positions on claim construction, and the Court held a *Markman* hearing on July 2, 2002. This Memorandum Opinion presents the Court's construction of the disputed terms and phrases.

## I. BACKGROUND

Novartis' '625, '017, and '840 Patents cover particular pharmaceutical formulations of the drug Cyclosporin, which is prescribed for transplant patients to help prevent organ rejection. (D.I. 131 at 7). Specifically, the '625, '017, and '840 Patents disclose compositions of microemulsion concentrate or microemulsion cyclosporin, and oral methods of their administration. (D.I. 129 at 1). These patents each claim priority from the same patent application, and have the same or nearly identical specification.

Novartis alleges infringement of independent Claim 1 and dependent Claims 7, 11-17, and 24 of the '625 Patent, independent Claims 17 and 81 and dependent Claims 18, 19, 22-25, 82, 83, and 86-89 of the '840 Patent, and independent Claim 13 and dependent Claims 14, 15, and 19 of the '017 Patent. (D.I. 129 at 7). Because similar terminology is used throughout the claims of each of these three patents, both parties agree that Claim 1 of the '625 Patent is representative for claim construction purposes. (D.I. 129 at 4; 131 at 7).

Claim 1 of the '625 Patent defines compositions comprised of cyclosporin as the active ingredient, a hydrophilic phase component, a lipophilic phase component, and a surfactant. (D.I. 129, Ex. A, '625 Patent, col. 33, lines 15-35). Specifically, Claim 1 provides:

1. A pharmaceutical composition comprising a cyclosporin as active ingredient,

1) a hydrophilic phase component comprising

1.1) a pharmaceutically acceptable di- or partial-ether of the formula



wherein  $R_1$  is  $C_{1-5}$ alkyl or tetrahydrofurfuryl,  $R_2$  is hydrogen,  $C_1$ -alkyl or tetrahydrofurfuryl, and X is an integer from 1 to 6, or

1.2) 1, 2-propylene glycol;

2) a lipophilic phase component; and

3) a surfactant;

wherein said composition is a microemulsion pre-concentrate, which upon dilution with water to a ratio of 1:1 parts by weight pre-concentrate to water or more of said water, is capable of providing an oil-in-water microemulsion having average particle size of less than about 1,000 E (D.I. 129, Ex. A, '625 Patent, col. 33, lns. 15-35).

The parties' dispute centers on the meaning of one term and two phrases used in Claim 1 of the '625 Patent. Specifically, the parties dispute the meaning of the phrases "lipophilic phase component" and "oil-in-water microemulsion," and the term "surfactant." FN1

FN1. The parties also dispute the meaning of the term "lipophilic component" used in the asserted independent claims of the '840 and '017 Patents, but agree that this phrase and the phrase "lipophilic phase component" should be ascribed the same meaning. (D.I. 129 at 8).

## **II. The Legal Principals Of Claim Construction**

[1] [2] [3] [4] [5] Claim construction is a question of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977-78 (Fed.Cir.1995), *aff'd*, 517 U.S. 370, 388-90, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). When construing the claims of a patent, a court considers the literal language of the claim, the patent specification and the prosecution history. *Markman*, 52 F.3d at 979. A court may consider extrinsic evidence, including expert and inventor testimony, dictionaries, and learned treatises, in order to assist it in construing the true meaning of the language used in the patent. *Id.* at 979-80 (citations omitted). A court should interpret the language in a claim by applying the ordinary and accustomed meaning of the words in the claim. *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 759 (Fed.Cir.1984). However, if the patent inventor clearly supplies a different meaning, the claim should be interpreted accordingly. *Markman*, 52 F.3d at 980 (noting that patentee is free to be his own lexicographer, but emphasizing that any special definitions given to words must be clearly set forth in patent). If possible, claims should be construed to uphold validity. In re *Yamamoto*, 740 F.2d 1569, 1571 & n. \* (Fed.Cir.1984) (citations omitted).

## **III. DISCUSSION**

### **A. The Meaning Of The Disputed Phrase "Lipophilic Phase Component"**

Novartis contends that the phrase "lipophilic phase component" should be construed in accordance with its plain and ordinary meaning, namely "a material that is lipophilic, i.e., fat- or oil-loving, and serves as a carrier (i.e. solvent) for cyclosporin." (D.I. 129 at 12). According to Novartis, the specification of the '625 Patent supports this construction, as it fails to set forth any additional limitations. (D.I. 129 at 12-22).

Abbott agrees with Novartis' construction, but contends that a plain reading of the claim language and specification of the '625 Patent make clear that additional limitations exist. (D.I. 131 at 2-3). According to Abbott, the claim language and specification of the '625 Patent require that the phrase "lipophilic phase component" be construed to include at least one excipient meeting the following criteria: (1) a pharmaceutically acceptable lipophilic solvent in which cyclosporin is soluble, which is (2) immiscible with both water and the hydrophilic phase component(s) (in the absence of a surfactant), and which (3) lacks the amphiphilic function characteristic of a surfactant (i.e., it must not be a surfactant). (D.I. 131 at 13-25). In addition to the requirements of the claim language and specification, Abbott contends that the prosecution history of the '625 Patent supports its construction. (D.I. 131 at 25-29).

[6] In construing the phrase "lipophilic phase component," the Court has considered the claim language, specification, and prosecution history of the '625 Patent. ( *See* D.I. 129, Ex. A, '625 Patent, col. 33, Ins. 15-35, col. 8, ln. 58-col. 9, ln. 63, col. 12, Ins. 42-48; D.I. 132 at A91, A110-111, A266, A496-501). Based on this review, the Court concludes that there is substantial support for Abbott's position. Specifically, the use

of the term "comprising" in Claim 1 of the '625 Patent signifies that there must be at least one of the four components listed (i.e. a cyclosporin, hydrophilic phase component, lipophilic phase component, and surfactant). (D.I. 129, Ex. A, '625 Patent, col. 33, lns. 15-35). Additionally, the portion of the specification which addresses the "lipophilic phase component" provides:

Suitable components for use as the lipophilic phase include any pharmaceutically acceptable solvent which is non-miscible with the selected hydrophilic phase, *e.g.*, as defined under (1.1) or (1.2). Such solvents will appropriately be devoid or substantially devoid of surfactant function.

( *See* D.I. 129, Ex. A, '625 Patent, col. 8, lns. 58-63). When read together, the Court is convinced that the claim language and specification require that the "lipophilic phase component" be devoid of the amphiphilic function characteristic of a surfactant, and immiscible with both water and the hydrophilic phase component in the absence of a surfactant. Moreover, the prosecution history further supports the requirements of the claim language and specification, as the applicant drew a clear distinction between lipophilic phase components and surfactants that are lipophilic in nature. ( *See* D.I. 132 at A91, A110-111). Accordingly, the Court will construe the phrase "lipophilic phase component" to include at least one excipient meeting the following criteria: (1) a pharmaceutically acceptable lipophilic solvent in which cyclosporin is soluble, which is (2) immiscible with both water and the hydrophilic phase component(s) (in the absence of a surfactant), and which (3) lacks the amphiphilic function characteristic of a surfactant (i.e., it must not be a surfactant).

## **B. The Meaning Of The Disputed Phrase "Oil-In-Water Microemulsion "**

Abbott contends that the phrase "oil-in-water microemulsion" should be construed to mean a colloidal dispersion that contains cyclosporin, a hydrophilic component, a lipophilic component, a surfactant, and water, all in certain relative proportions to one another such that combining the components (including water) results in the spontaneous or substantially spontaneous formation of a dispersion of the lipophilic phase component as droplets of an average size of between 10 and 200nm in the water and which is: (1) optically clear; (2) monophasic; (3) visually optically isotropic; and (4) stable at ambient temperatures, *e.g.*, as evidenced by absence of any observable clouding or regular emulsion size droplet formation or precipitation, for at least two hours. (D.I. 131 at 39).

Novartis contends that no genuine claim construction dispute exists concerning the phrase "oil-in-water microemulsion." (D.I. 135 at 31). Rather, Novartis contends that the issues raised by Abbott's construction of this phrase relate to infringement, and thus, should be reserved for the trier-of-fact. (D.I. 135 at 31-32). However, in the event the Court decides to construe the phrase "oil-in-water microemulsion," Novartis contends that the phrase should be construed to mean a colloidal dispersion of lipophilic droplets, having an average particle size of less than about 1,000 E that contains cyclosporin, a defined hydrophilic phase component, *e.g.* 1,2-propylene glycol, a lipophilic phase component, a surfactant and water, which dispersion is identifiable as possessing one or more of the following characteristics: a) formed spontaneously or substantially spontaneously, that is without substantial energy supply, *e.g.* in the absence of heating or the use of high shear equipment or other substantial agitation; b) substantially non-opaque, i.e. are transparent or opalescent; c) monophasic; d) optically isotropic; or e) thermodynamic stability, that is it will remain stable at ambient temperatures, *e.g.* without clouding or regular emulsion droplet formation or precipitation. (D.I. 135 at 38-39).

After reviewing the parties' arguments in light of the claims and specification of the '625 Patent, the Court is

convinced that the plain language of the '625 Patent clarifies any possible dispute surrounding the phrase "oil-in-water microemulsion." Claim 1 of the '625 Patent provides that oil-in-water microemulsions produced by diluting the microemulsion pre-concentrate with water have an "average particle size of less than about 1,000 E" (D.I. 129, Ex. A, '625 Patent, col. 33, lns. 15-35). In addition to the size of the oil-in-water microemulsion, the specification of the '625 Patent goes on to define the microemulsion's other characteristics. Specifically, the specification provides in relevant part:

... The term microemulsion as used herein is used in its conventionally accepted sense as a non-opaque or substantially non-opaque colloidal dispersion comprising water and organic components including hydrophobic (lipophilic) organic components. Microemulsions are identifiable as possessing one or more of the following characteristics. They are formed spontaneously or substantially spontaneously when their components are brought into contact, that is without substantial energy supply, e.g. in the absence of heating or the use of high shear equipment or other substantial agitation. They exhibit thermodynamic stability. They are monophasic. They are substantially non-opaque, i.e. are transparent or opalescent when viewed by optical microscopic means. In their undisturbed state they are optically isotropic, though an anisotropic structure may be observable using, e.g. x-ray technique.

Microemulsions comprise a dispersed or particulate (droplet) phase, the particles of which are of a size less than 2,000 E hence their optical transparency. the particles of a microemulsion may be spherical, though other structures are feasible, e.g. liquid crystals with lamellar, hexagonal or isotropic symmetries. generally, microemulsions comprise droplets or particles having a maximum dimension (e.g. diameter) of less than 1,500 E e.g. typically from 100 to 1,000 E (D.I. 129, Ex. A, '625 Patent, col. 5, ln. 61-col. 6, ln. 18).

Microemulsions obtained on contacting the "microemulsion pre-concentrate" compositions of the invention with water or other aqueous medium exhibit thermodynamic stability, that is they will remain stable at ambient temperatures, e.g. without clouding or regular emulsion size droplet formation or precipitation, over prolonged periods of time. (D.I. 129, Ex. A, '625 Patent, col. 6, lns. 63-68).

Because the '625 Patent describes the characteristics of an oil-in-water microemulsion in such detail, the Court concludes that it is not necessary to provide a construction of this phrase. Additionally, to the extent the parties' dispute centers on issues that are not addressed by either the claim or specification language, the Court concludes that such issues are properly reserved for the trier-of-fact.

### **C. The Meaning Of The Disputed Term "Surfactant"**

[7] Novartis contends that the term "surfactant" should be construed to include at least a hydrophilic surfactant. (D.I. 237 at 5-6). Abbott contends that the term "surfactant" should be construed to encompass both hydrophilic surfactants and lipophilic surfactants.

In construing the term "surfactant," the Court has considered the claim language and specification of the '625 Patent. ( See D.I. 129, Ex. A, '625 Patent, col. 33, lns. 15-35, col. 8, ln. 58-col. 9, ln. 63, col. 12, lns. 42-48; D.I. 132 at A91, A110-111, A266, A496-501). Based on this review, the Court concludes that there is substantial support for Abbott's position. In relevant part, the specification provides:

The surfactant component may comprise (3.1) hydrophilic or (3.2) lipophilic surfactants, or mixtures thereof. (D.I. 129, Ex. A, '625 Patent, col. 9, lns. 42-44).

Compositions as defined under (A) above include systems comprising either a single surfactant or mixture of surfactants, e.g. comprising a first surfactant and one or more co-surfactants. Surfactant and co-surfactant combinations may be selected, e.g. from any of the surfactant types listed under (3.1.1) to (3.2.7) above [which includes lipophilic surfactants listed under (3.2.1) to (3.2.7) ]. (D.I. 129, Ex. A, '625 Patent, col. 12, lns. 16-22).

Examples of suitable lipophilic surfactants for use as surfactant component are, e.g. (D.I. 129, Ex. A, '625 Patent, col. 11, lns. 7-8).

Moreover the term "surfactant" as used in Claim 1 of the '625 Patent is not qualified in any way, as opposed to Claim 7 and the asserted claims of the '840 and '017 Patents, which require a hydrophilic surfactant. (D.I. 129, Ex. A, '625 Patent, Claim 7; D.I. 130, Ex. 3, '840 Patent, Claims 17-19, 22-24, 81-83, 86-88, Ex. 4, '017 Patent, Claims 13-15). Accordingly, the Court will construe the term "surfactant" to encompass both hydrophilic surfactants and lipophilic surfactants.

#### **IV. CONCLUSION**

An appropriate Order will be entered.

#### ***ORDER***

At Wilmington this 11th day of July, 2002, for the reasons set forth in the Memorandum Opinion issued this date;

IT IS HEREBY ORDERED that:

1) the phrase "lipophilic phase component" is construed to include at least one excipient meeting the following criteria: (1) a pharmaceutically acceptable lipophilic solvent in which cyclosporin is soluble, which is (2) immiscible with both water and the hydrophilic phase component(s) (in the absence of a surfactant), and which (3) lacks the amphiphilic function characteristic of a surfactant (i.e., it must not be a surfactant); and

2) the term "surfactant" is construed to encompass both hydrophilic surfactants and lipophilic surfactants.

D.Del.,2002.

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