

United States District Court,  
S.D. Florida.

**BIOVAIL CORPORATION INTERNATIONAL, et al,**  
Plaintiffs.

v.

**ANDRX PHARMACEUTICALS, INC,**  
Defendant.

No. 98-7096-CIV

**March 6, 2000.**

Licensees of patent for hypertension drug sued generic drug manufacturer for infringement. The District Court, Dimitrouleas, J., held that: (1) patent was not literally infringed, and (2) patent was not infringed under doctrine of equivalents.

Judgment for defendant.

Affirmed at 239 F.3d 1297.

5,529,791. Not Infringed.

Alan M. Grimaldi, Richard H. Kjeldgaard, Mark R. Buscher, Elaine T.L. Wu, Howrey Simon Arnold & White, Washington, DC, Benedict Paul Kuehne, Sidney Katz, Eric C. Cohen, Kathleen A. Rheintgen, Charles Krikorian, Sale & Kuehne, Miami, FL, for Biovail Corporation International, plaintiff.

Alan M. Grimaldi, Richard H. Kjeldgaard, Eric C. Cohen, Kathleen A. Rheintgen, Charles Krikorian, Sale & Kuehne, Miami, FL, for Biovail Laboratories, Inc., plaintiff.

Benedict Paul Kuehne, Sidney Katz, Eric C. Cohen, Kathleen A. Rheintgen, Charles Krikorian, Sale & Kuehne, Miami, FL, for Galephar P.R., Inc., Ltd., plaintiff.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

**DIMITROULEAS, District Judge.**

THIS CAUSE came on for non-jury trial on January 24, January 31, February 14, February 15 and February 16, all in the year 2000. The Court has carefully considered the arguments of counsel, the evidence presented, and the testimony of the witnesses. The Court has also determined the credibility of witnesses and is otherwise fully advised in the premises.

Pursuant to Rule 52(a) of the Federal Rules of Civil Procedure, the Court makes the following Findings of Fact and Conclusions of Law.

1. Plaintiff, Biovail Corporation International, is an Ontario Canada corporation with its principal place of business at 2488 Dunwin Dr., Mississauga, Ontario, Canada L5L 1J9.
2. Plaintiff, Biovail Laboratories, Inc., is a Barbados corporation with its principal place of business at Chelston Park, Building 2, Collymore Rock, St. Michael, BH1, Barbados, West Indies.
3. Plaintiff, Galephar P.R., Inc., is a Puerto Rico corporation with its principal place of business at Carolina, Puerto Rico 00984-33468.
4. Defendant, Andrx Pharmaceuticals, Inc., is a Florida corporation with its principal place of business at 4001 S.W. 47th Avenue, Fort Lauderdale, Florida 33314.
5. Galephar P.R., Inc. is the owner of United States Patent No. 5,529,791 ("the '791 patent").
6. Biovail Corporation International is the exclusive licensee of Galephar P.R. Inc. under the '791 patent.
7. Biovail Laboratories, Inc. is a wholly owned subsidiary of Biovail Corporation Inc.
8. The alleged act of infringement constituted the filing by Defendant (hereinafter "Andrx") of an Abbreviated New Drug Application (hereinafter "ANDA") with the Food and Drug Administration (hereinafter "FDA") for permission to sell a bioequivalent formulation to the brand name drug Tiazac(R).
9. Shortly after filing the ANDA on June 22, 1998, Andrx served Biovail with its paragraph IV certification stating that the formulation described in the ANDA did not infringe the '791 patent which Biovail had listed in the FDA Orange Book as covering the Tiazac(R) product and that the claims of the '791 were invalid.
10. On October 7, 1998, Biovail filed the present action against Andrx alleging infringement of the '791 patent under 35 U.S.C. 271(e)(2)(a).

### **CLAIM INTERPRETATION**

11. The invention claimed by the '791 patent provides for an extended-release composition for the drug diltiazem.
12. Diltiazem is a well known drug compound which itself is no longer the subject of an extant patent.
13. Diltiazem is generally prescribed for its calcium channel blocking properties, and, therefore, is useful in the treatment of angina and/or hypertension; either alone or in combination with other medications.
14. The '791 patent contains four claims. Col. 8, line 59 to col. 10, line 11 of '791 patent (Defendant's Exhibit 1). FN1

FN1. Hereinafter, "DX" or "Def.Exh." will refer to Defendant's Exhibits.

15. Claim 1 of the '791 patent states:

1. An extended-release galenical composition of one or more pharmaceutically-acceptable salts of Diltiazem which comprises beads containing an effective amount of one or more of said Diltiazem salts as the active ingredient, each bead containing one or more of the Diltiazem salts and an effective amount of wetting agent in admixture with the one or more Diltiazem salts to maintain the solubility of the Diltiazem in each bead, ensuring that the solubility of the Diltiazem is unaffected by the pH of the gastrointestinal tract or other adverse conditions which the composition will meet therein, said beads being coated with a microporous membrane comprising at least a water-soluble or water-dispersible polymer or copolymer, and a water-, acid- and base-insoluble polymer and a pharmaceutically acceptable adjuvant, and wherein the wetting agent is selected from the group consisting of sugars, C<sub>12</sub>-C<sub>20</sub> fatty acid esters of sucrose, or xylose, glycerides of sucrose, fatty acid esters of polyoxyethylene, ethers of fatty alcohols and polyoxyethylene, esters of sorbitan, esters of polyoxyethylene sorbitan, alcohol-polyglycide esters, glyceride-polyglycides, lecithins and a combination thereof.

Col. 8, line 59 to col. 9, line 13 of '791 patent (DX1).

16. In Claim 1, the core of the '791 patent is claimed as containing two components:

(a) an effective amount of the drug diltiazem or salt thereof as the active ingredient;

in admixture with

(b) an effective amount to maintain the solubility of the diltiazem in each bead and to ensure that the solubility of diltiazem is unaffected by the pH of the gastrointestinal tract or other adverse conditions, of one of a number of specifically listed wetting agents, namely, sugars, C<sub>12</sub>-C<sub>20</sub> fatty acid esters of sucrose or xylose, glycerides of sucrose, fatty acid esters of polyoxyethylene, ethers of fatty alcohols and polyoxyethylene, esters of sorbitan, esters of polyoxyethylene sorbitan, alcohol-polyglycide esters, glyceride-polyglycides, lecithins, and combinations thereof.

Col. 8, line 59 to col. 9, line 13 of '791 patent (Def.Exh.1).

17. All of the four claims of the '791 patent clearly require the two components of the core, i.e., the diltiazem and the wetting agent, to be in admixture. Col. 8, line 67 to col. 10, line 10 of '791 patent (Def.Exh.1).

### *The '791 Patent Specification*

18. The specification of the '791 patent supports the requirement that the wetting agent be in admixture with the diltiazem in the dry state.

19. The '791 patent specification describes two methods for preparing the diltiazem beads.

The patent states as follows:

A first technique consists in mixing the Diltiazem or salt thereof with the wetting agent(s) in a melted or

finely divided form, or in solution, in the presence of a solvent, such as water, so as to obtain an extrudable paste or plastic mass. Col. 4, lines 26-30 of the '791 patent (DX1).

20. The patent specification further states that:

Another conventional technique for obtaining beads consists in spraying and/or dusting cores obtained through agglomeration of the Diltiazem or salt thereof, such as the chlorohydrate, contingently mixed to at least a wetting agent, with a dispersions or solution of at least one wetting agent. Col. 4, lines 39-44 the '791 patent (DX1).

21. Additionally, each of the Examples of the '791 patent specification exemplifies the preparation of the beads specifically describing mixing the bead components during the bead manufacturing stage, such as in a planetary mixer for approximately 15 minutes. Col. 5, lines 55-67 and col. 6, lines 4-15 of '791 patent (DX1).

22. The '791 patent issued as a continuation of two prior patent applications, one of which issued as a patent, and the other resulted in an abandonment. Cover of '791 patent (Def.Exh.1); '791 file history (Def.Exh.3); '505 file history (Def.Exh.4)

23. The original application was filed on June 26, 1991 and received Serial No. 721,396 ("the '396 application"). The '396 application eventually issued as United States Patent No. 5,288,505 on February 22, 1994 ("the '505 patent"). '505 file history (DX4).

24. The '505 patent has not been asserted against Andrx in the present lawsuit, and, in fact, is not listed in the FDA Orange Book as covering Tiazac(R). Complaint; FDA Orange Book (DX12).

25. Prior to the issuance of the '505 patent, Biovail filed a continuation of the '396 application on May 28, 1993, which continuation application received Serial No. 68,951 ("the '951 application"). '791 patent file history (DX3).

26. The '951 application did not issue as a patent, but instead was abandoned in favor of another continuation application which was filed on September 23, 1994 and which received Serial No. 311,722 ("the '722 application"). '791 patent file history (DX3).

27. The '722 application eventually issued as the '791 patent on June 25, 1996. '791 file history (DX3).

28. During the prosecution of the '951 application and the '396 application, Biovail consistently referred to the bead as comprising an admixture of the diltiazem and wetting agent during the manufacturing stage in order to avoid the prior art. '505 file history (DX4); '791 file history (DX3).

29. In fact, during the prosecution of the '951 application and the '396 application, Biovail made numerous representations to the USPTO that the claims required the diltiazem and wetting agent needed to be homogeneously admixed during the manufacturing state. '505 file history (DX4); '791 file history (DX3).

30. On pages 8-9 of the May 28, 1993 Preliminary Amendment in the '951 application, Biovail made the following representations regarding the scope of the claims to the USPTO:

Thus, at the outset, it is noted that the present composition is characterized by the use of beads consisting essentially of *in admixture together* an effective amount of Diltiazem or one or more salts thereof as an active ingredient and the wetting agent as defined in the claims. The beads are also coated with a microporous membrane as defined in the claims.

In essence, in admixture, the wetting agent appears to control, or strongly influence, the solubility of Diltiazem and does not permit this solubility to be affected by pH or other adverse conditions in the gastrointestinal tract. Further, this control appears to occur within the core of Diltiazem and wetting agent. This control affords a gradual release of Diltiazem in a relatively uniform manner over a period of about 24 hours. Further, the system of the present invention, as noted in the parent application is quite different from that of *Debregeas et al.* In particular, from column 3, lines 3-31 of *Debregeas et al.*, it is clear that the process thereof results in a compositional form having i) an 'core' of mutual excipients, which is described as a mixture of *saccharose or fructose and starch*, ii) an outer layer thereon of polyvinylpyrrolidone (PVP) and Diltiazem and iii) a coating thereon. Thus, in *Debregeas et al.*, Diltiazem is in admixture *with only PVP*, and not with the "core of that composition."

By contrast, the present formulation contains Diltiazem or one or more salts thereof *in admixture together* with the wetting agent. By combining the wetting agent in admixture with Diltiazem or one or more salts thereof, the solubility of the Diltiazem may be controlled and rendered independent of pH. This is quite important due to the wide variation in pH in the gastrointestinal tract. (emphasis in original).

Pages 8-9 of May 28, 1993 Preliminary Amendment (Def.Exh.5).

31. The above-paragraph from the Preliminary Amendment was interpreted by Mr. Deboeck, one of the inventors of the '791 patent and the Rule 30(b)(6) designee of Biovail for the topic of the prosecution history of the '791 patent, as referring to a distinction which only exists at the time of manufacture of the products, i.e., in the dry state, and not after placement in an aqueous media. Page 75, line 16 to page 79, line 12 of Deboeck deposition transcript.

32. The prosecuting attorney for Biovail of the '791 patent testified in his deposition that he did not recall why he made the statement. Page 149, line 2 to page 15, line 5 of Beaumont deposition transcript.

33. On page 11 of the May 28, 1993 Preliminary Amendment in the '951 application, Biovail further represented to the USPTO that the admixing was dependent on the manufacturing process:

... in accordance with the present invention, the extrusion-spheronization process leads to *homogeneous* type beads while the "building-up" process, starting with a sugar core, leads to *heterogeneous* type beads. Clearly, it is impossible to have a sugar central core in a *homogeneous* bead as in the present invention. Such a bead is, by nature, *heterogeneous*. (emphasis in original).

Page 11 of May 28, 1993 Preliminary Amendment (DX5).

34. Additionally, on pages 13-14 of the May 28, 1993 Preliminary Amendment Biovail represented to the USPTO that a sucrose central core cannot constitute a wetting agent within the scope of the claims:

... The saccharose contained in the central core of the bead *cannot* act as a wetting agent because in order to do so the saccharose must be mixed with the Diltiazem and, therefore, saccharose must be in solution with

Diltiazem. Unfortunately, in this system saccharose can only end up in solution after all the layers of Diltiazem are dissolved. In other words, saccharose can only become effective when there is not longer a need therefor. (emphasis in original). Pages 13-14 of May 28, 1993 Preliminary Amendment (DX5).

35. Accordingly, the prosecution history of the '791 patent supports the interpretation that the claims of the '791 patent require the diltiazem and wetting agent to be in admixture at the time of manufacture and do not cover a formulation where the diltiazem is layered on top of a sugar sphere core. '791 file history (DX3); Banakar testimony.

### **LITERAL INFRINGEMENT**

36. The product for which Andrx has requested approval from the FDA to market as a bioequivalent form of Tiazac(R) is the subject matter of ANDA 75-401 ("the Andrx product"). DX46.

37. The Andrx product does not include a wetting agent in admixture with diltiazem. Manufacture flow chart (DX43); Jan deposition testimony; CMC ANDA Section (DX46).

38. The Andrx product is comprised of beads which are placed in gelatin capsules. The beads themselves are comprised of three components, (i) an inert core, (ii) a drug layer, and (iii) a coating. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

39. The inert core of the Andrx product is comprised of spherical seeds which are referred to as sugar spheres and which are comprised of sucrose and starch. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

40. The drug layer of the Andrx product is comprised of a mixture of three components: (a) diltiazem HCl, (b) ethylcellulose (Ethocel 10cps) and (c) povidone (K-30). Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

41. The coating of Andrx product is comprised of five components: (1) Eudragit NE30D, (2) Hydroxypropyl Methylcellulose 2910 (Methocel E5), (3) magnesium stearate, (4) talc, and (5) polysorbate 80. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

42. A diagram of the Andrx product was shown wherein (a) represents the inert sugar sphere core, (b) represents the diltiazem containing layer, and (c) represents the coating. Non-infringement exhibit (DX38); Jan deposition testimony.

43. The manufacturing process for producing the Andrx product may be divided into six basic stages. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

44. In the first stage, Active Drug Layering, the diltiazem HCl is layered onto sugar spheres by suspension layering in a fluidized bed coater to produce active pellets which contain 75% diltiazem by weight. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

45. In the second stage, Extended Release Coating, the active pellets are then coated with a polymeric film in a fluidized bed coater to yield diltiazem HCl extended-release pellets. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

46. In the third stage, Blending, up to three sub-lots of diltiazem HCl extended-release pellets may be manufactured and blended to yield enough diltiazem HCl extended-release pellets for encapsulation of the maximum product batch size. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

47. In the fourth stage, Encapsulation, following testing and release, the diltiazem HCl extended-release pellets are filled into the appropriate size hard gelatin capsules. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

48. In the fifth stage, Check Weighing, during encapsulation, check weighing of the entire batch is performed if any individual capsule fill weight falls beyond (plus-or-minus sign)8% of the target fill weight. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

49. In the sixth stage, Packaging and Labeling, following testing and release, the encapsulated product is packaged, as required, into to packaging sizes-30's and 1000's. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

50. A flow chart of the manufacturing process is shown in Defendant's Exhibit 43. Manufacture flow chart (DX43); CMC ANDA section (DX46); Jan deposition testimony.

## **COMPARISON OF ANDRX PRODUCT TO '791 PATENT CLAIMS**

51. The Andrx product avoids the literal claim language on a number of grounds. Banakar testimony; Weiner testimony.

52. The Andrx product does not contain a wetting agent in admixture with diltiazem as required by the claims of the '791 patent.

53. The term "admixture" means two or more items are commingled and interdispersed to obtain a homogeneous product.

54. The term "homogeneous" means that samples of the product taken anywhere throughout the product should have the same compositions.

55. The term "wetting agent" is defined as any of a group of surface active agents which, when added to a liquid, cause the liquid to spread more easily over, or penetrate into, a solid surface. Weiner testimony; Banakar testimony.

56. Ethylcellulose is not a wetting agent within the scope of the '791 patent claims. Biovail Response to Admission Request No. 8 (DX37).

57. Povidone (polyvinylpyrrolidone) is not a wetting agent within the scope of the '791 patent claims. Biovail Response to Admission Request No. 4 (DX37).

58. Neither polyvinylpyrrolidone or ethylcellulose are included in the list of wetting agents recited in claim 1 of the '791 patent. Col. 9, lines 5-13 of '791 patent (DX1); Biovail Response to Admission Request Nos. 6

and 7 (DX37).

59. At the time of manufacture, the diltiazem in the Andrx product is only in admixture with polyvinylpyrrolidone and ethylcellulose.

60. At the time of manufacture, the sugar sphere of the Andrx product cannot be considered to be in admixture with the diltiazem hydrochloride because in manufacturing the Andrx product the drug layer containing the diltiazem hydrochloride is layered onto the sugar sphere producing a heterogeneous or layered structure and not a homogeneous structure as required by the plain meaning of the term "admixture" in the claims of the '791 patent.

61. Sucrose is only a wetting agent when it is in the dry state.

62. Sucrose is not commonly referred to as a wetting agent because it is not surface active, i.e., it does not reduce the surface tension of water.

63. Instead sucrose is more commonly referred to as a dispersing or wicking agent, which may be classified as a wetting agent only because sucrose may have utility in helping to disperse solids in water. These types of wetting agents are solids which have no surface activity, but have very high water solubility.

64. When a solid has difficulty in wetting, it can be admixed with dispersing or wicking agents which easily wet, thereby increasing the permeability of water to the region of the solid which has difficulty in wetting, thus improving its ability to be dissolved by not allowing it to aggregate together to the extent that it would aggregate if these dispersing agents were not present.

65. For example, when one experiences problems adding an insoluble drug to a vat of liquid that needs to be dispersed in this vat, very often if they add the drug directly to the liquid it will "glom up" and if they try to stir it faster, the ball of "glom" will just move faster. So a common technique for solving this problem is to take the drug with solid sugar, mix it intimately with the solid sugar and then add this admixture to the liquid, which improves the ability of the drug to be dispersed. Weiner testimony.

66. While solid sucrose may act as a dispersing or wicking agent, a sucrose solution acts as an anti-wetting agent. Weiner testimony; Banakar testimony.

67. Solid sucrose if it is interdispersed and intimately mixed with another solid will allow more water to come into contact with that solid because the solid sucrose is attracting the water. However, if sucrose is in solution, the water is already there, and in fact, sucrose and water mix extremely well. Thus, the water now has a choice of whether it will go to the solid or stay with the sucrose, it will always stay with the sucrose and go away from the solid because it is already very happy with its intimate mixture with sucrose. Weiner testimony.

68. There is no physical or chemical basis to support defining a hydrophilic or water-soluble non-surface active agent in water as a wetting agent, and because there is a disincentive for the hydrophilic or water-soluble non-surface active agent in water to act as wetting agent because the water is interacting more strongly with the hydrophilic or water-soluble non-surface active agent than with the solid surface you desire to wet, it is in fact more clearly defined as an anti-wetting agent. Weiner testimony.



69. Furthermore, all wetting agents decrease the surface tension of water. However, once sucrose has been dissolved in water the surface tension of water increases, thereby negating solid sucrose's tendency to wet a substance. Weiner testimony.

70. Biovail has failed to prove that an admixture between the sugar and the diltiazem forms in the body.

71. Biovail has admitted that as manufactured the Andrx product does not contain an admixture of diltiazem and wetting agent.

72. Andrx performs its dissolution testing in a USP Apparatus 2 (paddles) at 75 rpm. Biovail employed a shaker table at 30 rpm.

73. Biovail has provided no evidence that a shaker table provides equivalent results to what goes on in body. Conditions in gastrointestinal tract are not the same as those created in a shaker table.

74. Biovail's tests are not reliable for a number of reasons:

(a) no showing that beads used for weight loss study were equivalent (storage time, conditions, lot number, etc.) to those Andrx used in dissolution testing subtracted from weight loss to determine alleged sugar release,

(b) use of sodium azide (a strong ion that can affect dissolution and destroy the test),

(c) difference in shaker table v. dissolution apparatus,

(d) temperature control,

(e) effect of lyophilization,

(f) flow patterns or hydrodynamics will affect dissolution rate tests.

75. Biovail's own tests, particularly the Electron Scanning Microscope (ESM) slides submitted in evidence, do not show that a homogeneous admixture is formed in the Andrx product. Plaintiff's Exhibit 30 (Exhibit 30a et al.).

76. Biovail has not met its burden to show that the Andrx product employs an amount of a wetting agent which maintains the solubility of diltiazem in each bead.

77. In solution, sucrose does not function as a wetting agent and therefore no amount can be effective to maintain the solubility of diltiazem.

78. Biovail has not met its burden to show that the Andrx product employs an amount of a wetting agent which ensures that the solubility of the diltiazem is unaffected by the pH of the gastrointestinal tract or other adverse conditions which the composition will meet therein.

79. In solution, sucrose does not function as a wetting agent and therefore it cannot be effective to maintain the solubility of diltiazem.

## DOCTRINE OF EQUIVALENTS

### THE USE OF A SUGAR CORE IS A SUBSTANTIAL DIFFERENCE

80. Use of a solid sugar core as opposed to a sugar or another wetting agent in admixture with the diltiazem is a substantial difference.

81. The sugar core functions substantially differently because it is inert and does not function as a wetting agent.

82. The sugar core acts in a substantially different way because it does not provide any wetting to the diltiazem but merely provides a means for which to build up the diltiazem.

83. The sugar core provides a substantially different result because once solubilized it functions as an anti-wetting agent.

### SUCROSE STEARATE IS NOT EQUIVALENT TO SUCROSE

84. Regarding claim 4, sucrose stearate does not function in an equivalent manner to a solution of sucrose.

85. A solution of sucrose functions as an anti-wetting agent, while sucrose stearate functions as a wetting agent.

86. A sucrose core surrounded by a layer of diltiazem acts in a substantially different way from a mixture of diltiazem and sucrose stearate because it does not provide any wetting to the diltiazem.

87. Sucrose in solution does not form the same type of structure with diltiazem that sucrose stearate does.

### PRIOR ART ESTOPPEL

88. A product having a sugar sphere on top of which is built up a layer of diltiazem and polyvinylpyrrolidone having an outer coating thereon is within the prior art. '240 patent (DX7); '619 patent (DX8); '596 patent (DX9); '083 patent (DX10); '097 patent (DX11).

89. This was specifically admitted by Plaintiff in the prosecution history of the '791 patent. May 28, 1993 Preliminary Amendment (DX5).

90. Specifically, on page 9 of the May 28, 1993 Preliminary Amendment, Plaintiff stated as follows with regard to the Debregeas patent:

In particular, from column 3, lines 3-31, of Debregeas et al, it is clear that the process thereof resulted in a compositional form having i)[a] 'core' of mutual excipient, which is described as a *mixture of saccharose or fructose and starch* [i.e. sugar], ii) an outer layer thereon of polyvinylpyrrolidone (PVP) and Diltiazem, and iii) a coating thereon. (emphasis in original) May 28, 1993 Preliminary Amendment (DX5).

91. This is an exact description of the composition of the Andrx formulation which is alleged to infringe the claims of the '791 patent (except that the Andrx formulation also contains ethyl cellulose in the layer built up

on top of the sugar core). Jan deposition testimony; Banakar testimony.

92. Other prior art references also employ the same inert sugar core; diltiazem layer; coating structure which is employed by Andrx and taught in the '596 patent. For example, see, Panoz et al., United States Patent No. 4,721,619 ("the '619 patent"); Valducci, European Patent No. 263 083 ("the '083 patent"); Geogheghan et al., European Patent No. 320 097 ("the '097 patent"); Geogheghan et al., United States Patent No. 4,894,240 ("the '240 patent"); and the '596 patent. '240 patent (DX7); '619 patent (DX8); '596 patent (DX9); '083 patent (DX10); '097 patent (DX11); Banakar testimony.

93. To the extent any of these Findings of Fact constitute Conclusions of Law, they are hereby adopted as both.

## CONCLUSIONS OF LAW

1. The present action was brought by Plaintiffs (hereinafter "Biovail") for the alleged infringement of United States Patent No. 5,529,791 (hereinafter "the '791 patent") under 35 U.S.C. s. 271(e)(2)(a) which defines a narrow act of infringement.

2. This narrow act of infringement derives from a statutory scheme which was enacted by Congress in the Drug Price and Patent Term Restoration Act, 98 Stat. 1585 (hereinafter "Patent Term Act"). The Patent Term Act sought to facilitate entry of lower priced bioequivalent drugs into the marketplace while also providing incentives for promoting the development of new drug products.

3. Accordingly, the Patent Term Act defined a new form of infringement, which was codified at 35 U.S.C. s. 271(e)(2)(a), which covers the narrow situation wherein an ANDA is filed to obtain FDA approval for a drug product which is bioequivalent to a drug claimed in a patent listed in the FDA Orange Book, and which infringes the claims of the listed patent. 1984 U.S.C.C.A.N. 2678-79; 35 U.S.C. s. 271(3)(2).

4. Upon the filing of an ANDA for a drug for which a patent is listed in the FDA Orange Book, the ANDA applicant is required to make one of four certifications regarding the patent. If the ANDA applicant makes what is known as a paragraph IV certification, i.e., that the ANDA applicant believes that the drug formulation described in the ANDA does not infringe the claims of the patent(s) listed in the FDA Orange Book, or that the claims of the listed patent are invalid, then the patent owner may file a lawsuit under 35 U.S.C. s. 271(e)(2)(a) within forty-five days of the notice. 21 U.S.C. s. 355(j)(5)(iii).

5. Upon the filing of such a lawsuit, the ANDA statute forbids the FDA from approving the ANDA until either there is a final decision of no infringement or invalidity by a United States court, or thirty months expires, whichever occurs first. 21 U.S.C. s. 355(j)(5)(iii).

6. Plaintiffs filed the instant complaint on October 7, 1998, seeking: 1) a declaratory judgment that Defendant's submission of an ANDA for commercial production of its proposed generic equivalent of Tiazac(R) before the expiration of the '791 Patent constitutes infringement of the '791 patent; 2) an order under 35 U.S.C. s. 271(e)(4)(A) directing the effective date of any approval of Defendant's proposed generic equivalent to be a date which is not earlier than the expiration of the '791 patent; 3) injunctive relief prohibiting Defendant from further infringing on the '791 patent; and 4) attorney fees and costs.

7. Defendant, in response, filed an answer and counterclaim seeking declaratory judgment and alleging the

following claims: 1) Defendant has not infringed the '791 patent (Count I); 2) the '791 patent is invalid due to prior art, previous full public disclosure of the alleged invention prior to the application for the '791 patent, and various other reasons for invalidity (Count II), 3) the '791 patent is invalid due to fraud by Plaintiff Galephar in submitting fees and a verified statement based upon Galephar's small entity status, when Galephar had already licensed its patent to a large entity (Count III); and 4) the '791 patent is invalid due to misuse by Plaintiffs in commencing "the present action in an unlawful attempt to impermissibly broaden the scope of the '791 patent with the anticompetitive effect of delaying and/or keeping the accused Andrx product from being marketed" (Count IV) (Count IV was previously dismissed by this Court).

### ***Claim Construction of the '791 Patent***

[2] 9. The Court principally looks to the claims made in the patent, the specifications, and the prosecution history. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996).

[3] 10. Only if these are ambiguous, does the Court look to extrinsic evidence, such as expert affidavits or declarations. *Id.*

11. The claims herein appear specific enough to allow the Court to construe the claims without the need for extrinsic evidence for purposes of the motions for summary judgment.

12. Based on the '791 patent claim language, the specification of the '791 patent and the prosecution history which led to the issuance of the '791 patent, it is clear that the claims of the '791 patent require that the wetting agent and diltiazem be in admixture in the dry state. *Southwall Tech., Inc. v. Cardinal IG Co.*, 54 F.3d 1570 (Fed.Cir.1995).

### **LITERAL INFRINGEMENT**

[4] 13. In order for a composition to literally infringe a claim, each and every element must be found in the accused product *exactly*. *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed.Cir.1995).

[5] 14. The burden to show literal infringement is on the patentee by a preponderance of evidence. *Braun Inc. v. Dynamics Corp.*, 975 F.2d 815 (Fed.Cir.1992).

[6] 15. In this case, Biovail has failed to meet its burden that Andrx's product infringed the '791 patent.

### **DOCTRINE OF EQUIVALENTS**

[7] 16. The doctrine of equivalents is sometimes applied in patent cases to enable the claims of a patent to cover products not within the literal scope of the claim if the product only differs insubstantially from the claim language. *Hilton Davis Chem. Co. v. Warner Jenkinson Co.*, 62 F.3d 1512, 35 USPQ2d 1641 (Fed.Cir.1996).

[8] 17. One way to show an insubstantial difference is to show that the substituted element provides substantially the same functions in substantially the same way to achieve substantially the same result. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997).

[9] 18. The burden to show infringement under the doctrine of equivalents is on the patentee by a

preponderance of evidence. *Braun Inc. v. Dynamics Corp.*, 975 F.2d 815 (Fed.Cir.1992).

19. In reviewing the scientific evidence, the Court is mindful to follow the teachings of the Federal Circuit:

As we have repeatedly said, it is error for a court to compare in its infringement analysis the accused product or process with the patentee's commercial embodiment of other version of the product or process; the only proper comparison is with the claims of the patent.

*Zenith Laboratories, Inc. v. Bristol-Myers Squibb*, 19 F.3d 1418, 1423 (Fed.Cir.1994); *Glaxo, Inc. v. TorPharm, Inc.*, 153 F.3d 1366, 1373 (Fed.Cir.1998).

20. In this case, Biovail has failed to prove infringement by Andrx's diltiazem product.

[10] 21. In making a doctrine of equivalents analysis, the scope of equivalents to which a claim may be allowed is limited by the doctrine of prosecution history estoppel. *Athletic Alternatives, Inc. v. Prince Mfg. Inc.*, 73 F.3d 1573, 1582 (Fed.Cir.1996).

[11] 22. Under the doctrine of prosecution history estoppel, actions taken by a patentee during the prosecution history act as legal limits on the application of the doctrine of equivalents by excluding from the range of equivalents subject matter surrendered during prosecution of the application for patent. The estoppel may arise from matter surrendered as a result of amendments to overcome patentability rejections, or as a result of argument to secure allowance of a claim. *Sextant Avionique S.A. v. Analog Devices, Inc.*, 172 F.3d 817, 49 USPQ2d 1865, 1870 (Fed.Cir.1999).

[12] 23. A patentee is simply not entitled to greater rights under the doctrine of equivalents than he would be under the language of the claims of the patent. *White v. Dunbar*, 119 U.S. 47, 51-52, 7 S.Ct. 72, 74-75, 30 L.Ed. 303 (1886).

[14] 25. A patentee who has limited claims of patents for controlled release drug formulation primarily in consideration of obviousness rejection, is estopped from asserting relinquished claim scope against a defendant under theory of infringement by equivalents. *Merck & Co. v. Mylan Pharms. Inc.*, 190 F.3d 1335, 51 USPQ2d 1954 (Fed.Cir.1999).

[15] 26. Statements made during the prosecution of a patent bar plaintiff from asserting the doctrine of equivalents infringement against accused products, regardless of whether the statements were required to distinguish prior art, where a reasonable competitor could conclude from the statements that the plaintiff disclaimed the subject matter at issue in order to obtain the issuance of the patent.

[16] 27. The Federal Circuit has stated that: "For an estoppel to apply, such assertions in favor of patentability must evince a clear and unmistakable surrender of subject matter." *Pharmacia & Upjohn Company v. Mylan Pharmaceuticals, Inc.*, 170 F.3d 1373, 1377 (Fed.Cir.1999) (internal quotation omitted).

[17] 28. The Court hereby concludes that Biovail did clearly and unmistakably surrender the building up process of using an inert sugar core in an extended release diltiazem product.

29. The Federal Circuit has also held that the relevant inquiry is whether a competitor would reasonably

believe that the applicant had surrendered the relevant subject matter. *Cybor Corporation v. FAS Technologies, Inc.*, 138 F.3d 1448, 1457 (Fed.Cir.1998) (en banc).

30. In this case, a competitor would reasonable believe that Biovail had disclaimed the inert sugar core products in favor of their admixture form.

31. As an alternative conclusion to the above conclusion that Biovail has failed to meet its burden that Andrx infringed its patent, the Court concludes that because Biovail amended its claims to exclude a sugar core not in admixture with the diltiazem from the scope of the claims in response to a prior art rejection, Biovail is estopped from asserting that the inert sugar core of the Andrx formulation is a "wetting agent" within the scope of the claims of the '791 patent. *Ekchian v. Home Depot, Inc.*, 104 F.3d 1299, 1304 (Fed.Cir.1997).

32. Such an amendment in response to a prior art rejection constitutes the essence of prosecution history estoppel and operates as a complete bar to infringement by doctrine of equivalents. *Sextant Avionique S.A. v. Analog Devices, Inc.*, 172 F.3d 817, 49 USPQ2d 1865, 1874-75 (Fed.Cir.1999).

33. Additionally, because Biovail continuously argued on numerous occasions that the use of a sugar core surrounded by a diltiazem layer to form a heterogeneous structure, as prepared by a "building up" process was not within the scope of the claims of the '791 patent, Biovail is estopped from asserting that the inert sugar core of the Andrx formulation is a "wetting agent" within the scope of the claims of the '791 patent. *Desper Prods. Inc. v. QSound Labs. Inc.*, 157 F.3d 1325, 48 USPQ2d 1088, 1098 (Fed.Cir.1998); *Haynes Int'l, Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 1579 (Fed.Cir.1993).

34. It is only reasonable that explicit arguments made during the prosecution of a patent in order to overcome the prior art lead to a narrowing of the interpretation of the claims. As the Federal Circuit has held that "the public has a right to rely on such definitive statements made during prosecution." *Digital Biometrics v. Identix*, 149 F.3d 1335, 1347 (Fed.Cir.1998) (pointing to "[n]otice [as] an important feature of patent prosecution, as reflected by the [patent] statute itself").

35. The public's reliance on statements made during prosecution of a patent is entirely justified because "[b]y distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover." *Ekchian v. Home Depot, Inc.*, 104 F.3d 1299, 1304 (Fed.Cir.1997).

### **PRIOR ART ESTOPPEL**

[18] 36. The doctrine of prior art estoppel provides a legal limitation on the application of the doctrine of equivalents by mandating that the asserted range of equivalents may not encompass the prior art at the very point at which the claims distinguish from that art.

[19] 37. The doctrine of prior art estoppel prevents the doctrine of equivalents from expanding the scope of the claims to protect subject matter in, or obvious in light of, the prior art. *Athletic Alternatives, Inc. v. Prince Mfg. Inc.*, 73 F.3d 1573, 1582 (Fed.Cir.1996).

38. Thus, because the Andrx formulation was admitted by Plaintiff to be within the scope of the prior art, the doctrine of equivalents cannot be asserted by Plaintiffs to bring the Andrx formulation within the scope of the '791 patent claims. *Stewart-Warner*, 767 F.2d at 1572; *Athletic Alternatives*, 73 F.3d at 1582.

39. The Court declines to reach the counterclaims for invalidity brought by Andrx against the Biovail patent given the Court's conclusions that Biovail has not proven that the Andrx product infringes the patent. Thus, resolution of the counterclaims is not necessary to provide Andrx with the full relief it requested, namely, that its product does not infringe the Biovail patent

40. To the extent any of these Conclusions of Law constitute Findings of Fact, they are hereby adopted as both.

41. A separate Final Judgment will be entered herein consistent with the Court's Findings of Fact & Conclusions of Law.

S.D.Fla.,2000.

Biovail Corp. Intern. v. Andrx Pharmacy, Inc.

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