

Filed: February 16, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

APOTEX INC. AND APOTEX CORP.  
*Petitioners*

v.

ABRAXIS BIOSCIENCE, LLC  
*Patent Owner*

---

Case IPR2018-00151  
U.S. Patent 8,138,229

---

**PATENT OWNER PRELIMINARY RESPONSE**

## TABLE OF CONTENTS

<b>TABLE OF AUTHORITIES</b> .....	iv
<b>TABLE OF ABBREVIATIONS</b> .....	vii
<b>LIST OF EXHIBITS</b> .....	viii
<b>I. INTRODUCTION</b> .....	1
<b>II. BACKGROUND</b> .....	4
A. The Development of Abraxane® .....	4
B. The '229 Patent .....	8
C. Procedural History.....	9
<b>III. LEVEL OF ORDINARY SKILL IN THE ART AND CLAIM CONSTRUCTION</b> .....	10
A. The POSA.....	10
B. Claim Construction.....	10
1. The plain language of the claim is directed to the finished pharmaceutical product.....	11
2. The specification and prosecution history support this construction.....	12
3. Petitioners' proposed construction is flawed.....	14
<b>IV. THE PETITION FAILS TO DEMONSTRATE A REASONABLE LIKELIHOOD THAT ANY CHALLENGED CLAIM IS ANTICIPATED (GROUND I)</b> .....	15
A. Desai Does Not Expressly Disclose The Weight Ratio .....	15
1. Example 1 does not teach a final albumin-paclitaxel weight ratio of 9:1 .....	15
2. The remainder of Desai is silent about the weight ratio in the final composition.....	16
B. Desai Does Not Inherently Disclose The Weight Ratio .....	16
1. Petitioners ignore that Example 1 produces Capxol, which has a final albumin-to-paclitaxel ratio of 13.3:1, not 9:1.....	18

2.	Petitioners’ argument that Example 16, rather than Example 1, produces Capxol is incorrect .....	19
3.	Because of paclitaxel loss during processing, a 9:1 starting ratio will not necessarily remain in the finished product.....	26
C.	Dependent Claims 4, 9, 11, 13, 17, 25, 31, 36, And 40 Requiring Exactly “1:1 To 9:1” Are Not Anticipated Either Expressly Or Inherently .....	29
D.	Dependent Claims 7 And 33 Are Not Anticipated Either Expressly Or Inherently .....	30
V.	<b>THE PETITION FAILS TO DEMONSTRATE A REASONABLE LIKELIHOOD THAT DESAI ALONE RENDERS OBVIOUS ANY OF THE CHALLENGED CLAIMS (GROUND II.A).....</b>	<b>30</b>
A.	Desai Does Not Teach All Of The Claimed Elements.....	31
B.	Desai Does Not Disclose A Range Of Final Albumin-To-Paclitaxel Weight Ratios That Includes 9:1 .....	32
1.	A POSA would not modify Example 1 .....	32
2.	A POSA would have no motivation to modify the 1% albumin concentration and not other parameters.....	34
C.	A POSA Would Have Sought To Maximize The Benefits Conferred By Albumin.....	35
1.	Albumin increases efficacy.....	36
2.	Albumin plays a critical stabilization role .....	36
3.	Albumin inhibits crystallization.....	37
D.	There Was No Motivation To Reduce Capxol’s Albumin-To-Paclitaxel Ratio.....	38
1.	Petitioners have not identified a motivating problem to be solved .....	38
2.	A POSA would not have had a reasonable expectation that the claimed ratio of 9:1 would be stable .....	43

<b>VI. THE PETITION FAILS TO DEMONSTRATE A REASONABLE LIKELIHOOD THAT ANY CHALLENGED CLAIM WOULD HAVE BEEN OBVIOUS OVER THE COMBINATION OF DESAI, KADIMA, AND LIVERSIDGE (GROUND II.B)</b>	46
A. Desai In Combination With Kadima Does Not Render The Claims Obvious	47
1. Kadima does not teach the claimed weight ratio	47
2. A POSA would not have been motivated to reduce the ratio based on cost	50
3. Kadima teaches away from reducing the ratio from 13.3:1 to 9:1	53
4. A POSA would have had no reason to combine Desai and Kadima with a reasonable expectation of success	55
B. Desai In Further View Of Liversidge Does Not Render The Claims Obvious	56
1. An albumin-paclitaxel weight ratio of “about 1:1 to about 9:1” is not <i>prima facie</i> obvious	56
2. A POSA would have no reason to combine Desai and Liversidge with a reasonable expectation of success	58
<b>VII. DEPENDENT CLAIMS 5, 10, 12, 14, 18, 26, 28, 32, 37, AND 41 ARE NONOBVIOUS</b>	59
<b>VIII. CLAIM 20 IS NONOBVIOUS (GROUNDS III.A AND III.B)</b>	60
<b>IX. SECONDARY CONSIDERATIONS SUPPORT NONOBVIOUSNESS</b>	61
A. The Cell-Binding Results Were Unexpected And Have A Nexus To The Claims	62
B. The Results Of Clinical Studies Were Unexpected	64
<b>X. CONCLUSION</b>	66

## TABLE OF AUTHORITIES

	<b>Page</b>
<b>CASES</b>	
<i>ACTV, Inc. v. Walt Disney Co.</i> , 346 F.3d 1082 (Fed. Cir. 2003) .....	11
<i>Allergan, Inc. v. Sandoz Inc.</i> , 796 F.3d 1293 (Fed. Cir. 2015) .....	66
<i>AstraZeneca Pharm. LP v. Anchen Pharm., Inc.</i> , No. 10-cv-1835 JAP TJB, 2012 WL 1065458 (D.N.J. Mar. 29, 2012) .....	46
<i>Atofina v. Great Lakes Chem. Corp.</i> , 441 F.3d 991 (Fed. Cir. 2006) .....	15
<i>Avaya Inc. v. Network-1 Security Solutions, Inc.</i> , IPR2013-00071, Paper 103 (P.T.A.B. May 22, 2014) .....	25
<i>Continental Can Co. U.S.A. v. Monsanto Co.</i> , 948 F.2d 1264 (Fed. Cir. 1991) .....	17, 20, 25
<i>Cumberland Pharm. Inc. v. Mylan Institutional LLC</i> , 846 F.3d 1213 (Fed. Cir. 2017) .....	47
<i>DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.</i> , 567 F.3d 1314 (Fed. Cir. 2009) .....	53, 55, 56
<i>Electro Med. Sys., S.A. v. Cooper Life Scis., Inc.</i> , 34 F.3d 1048 (Fed. Cir. 1994) .....	17
<i>Eli Lilly &amp; Co. v. Actavis Elizabeth LLC</i> , 435 F. App'x 917 (Fed. Cir. 2011) .....	18
<i>Exxon Chem. Patents, Inc. v. Lubrizol Corp.</i> , 64 F.3d 1553 (Fed. Cir. 1995) .....	14

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.