

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LUPIN, LTD. and LUPIN PHARMACEUTICALS INC.,

Petitioner

v.

SENJU PHARMACEUTICAL CO., LTD.

Patent Owner

Case IPR2015-01100

Patent 8,927,606 B2

DECLARATION OF ROBERT O. WILLIAMS, III, PH.D

TABLE OF CONTENTS

I.	INTRODUCTION	5
II.	BACKGROUND AND QUALIFICATIONS	5
III.	INFORMATION CONSIDERED	8
IV.	LEGAL PRINCIPLES	9
V.	THE '606 PATENT	9
A.	Specification and Claims	9
B.	Level of Skill in the Art	18
C.	Claim Construction for “Stable” and “Amount Sufficient to Stabilize”	19
VI.	SUMMARY OF OPINIONS	22
VII.	THE STATE OF THE ART AS OF JANUARY 21, 2003	28
A.	A Person of Ordinary Skill in the Art Would Not Have Pursued Bromfenac Formulations Over Other NSAID Formulations	33
1.	No reason to pursue bromfenac formulations	33
2.	Design needs or market demands would not have supported the solution that Lupin proposes	37
B.	A Person of Ordinary Skill in the Art Would Not Have Considered Different Non-Ionic Surfactants Interchangeable	47
1.	No teaching of interchangeability of polysorbate 80 and tyloxapol in aqueous solutions of NSAIDs	48
2.	No teaching of polysorbate 80 or tyloxapol as a stabilizer of aqueous ophthalmic preparations of NSAIDs	55
C.	A Person of Ordinary Skill in the Art Would Not Have Considered Different NSAIDs Interchangeable	67

VIII. THE TEACHINGS OF OGAWA AND SALLMANN WOULD NOT HAVE BEEN COMBINED WITH ANY REASONABLE EXPECTATION OF ARRIVING AT THE CLAIMED SUBJECT MATTER OF THE '606 PATENT	69
A. A Person of Ordinary Skill in the Art Would Have Had No Reason to Focus on Ogawa and its Bromfenac Formulations	70
B. At the Time of Invention, A Person of Ordinary Skill in the Art Would Not Have Combined Ogawa's Teachings With Those of Sallmann.....	73
1. Ogawa and the problem it identifies with bromfenac.....	73
2. A person of ordinary skill in the art would not have looked to Sallmann or combined its teachings with those of Ogawa	78
3. Dr. Lawrence's alleged motivation and expectation of success in fact would not have made the combination of Ogawa and Sallmann obvious to make.....	89
4. A person of ordinary skill in the art would not have modified Sallmann with the teachings of Ogawa	104
IX. OBJECTIVE EVIDENCE OF NON-OBVIOUSNESS OF THE '606 PATENT CLAIMS.....	110
A. A Unique, Non-Prior Art, Aspect of the '606 Patent Claims: The Use of Tyloxapol with Bromfenac.....	110
B. The Unexpectedly Superior Chemical Stabilizing Benefits of Tyloxapol Compared to Polysorbate 80.....	112
1. The '606 patent compares against the closest prior art for purposes of showing unexpected results.....	113
2. A person of ordinary skill in the art would have had no expectation, based on polysorbate 80, of tyloxapol's effect on the chemical stability of bromfenac formulations	116

3.	Tyloxapol’s unexpectedly superior chemical stabilizing effect.....	119
C.	Tyloxapol is Unexpectedly Better than Polysorbate 80 at Maintaining Preservative Efficacy	127
D.	Tyloxapol’s Unexpectedly Superior Stabilizing Effect Led to Actual Benefits for Patients.....	130
E.	Copying of ProLensa [®] by Generic Drug Companies	132
X.	SEPARATE PATENTABILITY OF INDIVIDUAL CLAIMS	134
A.	Claims 5-8, 15-16, 23 and 27: About 0.01 w/v % to About 0.05 w/v % Tyloxapol	134
B.	Claims 11-18, 26 and 29: Greater Than About 90% of Bromfenac Remains After Storing at 60° C. for 4 Weeks.....	141
C.	Claims 28-30: EP-Criteria B Standard for Preservative Efficacy.....	146
XI.	CONCLUSION.....	152
XII.	CLAIM CHART DEMONSTRATING THAT PROLENSA [®] FALLS WITHIN THE SCOPE OF CERTAIN CLAIMS OF THE ’606 PATENT	157
XIII.	CHART DEMONSTRATING THAT LUPIN’S GENERIC BROMFENAC PRODUCT IS AN EXACT COPY OF PROLENSA [®]	170

I, Robert O. Williams, III, Ph.D., under penalty of perjury, declare as follows:

I. INTRODUCTION

1. I have been retained by Finnegan, Henderson, Farabow, Garrett & Dunner, LLP on behalf of Senju Pharmaceutical, Co., Ltd. in connection with six *inter partes* review (“IPR”) proceedings (IPR2015-00903, IPR2015-00902, IPR2015-01097, IPR2015-01099, IPR2015-01100 and IPR2015-01105) before the United States Patent and Trademark Office (“PTO”) Patent Trial and Appeal Board (“Board”) as an expert in the field of the design, evaluation, and formulation of drug products. My qualifications in these areas, as well as other areas, are established below and by my *curriculum vitae*, which is attached as EX2115.

II. BACKGROUND AND QUALIFICATIONS

2. I am currently the Johnson & Johnson Centennial Chair of Pharmaceutics at the University of Texas at Austin College of Pharmacy in Austin, Texas, where I have been teaching and conducting research for twenty years. Also, I am the Division Head of Pharmaceutics.

3. I received a B.S. degree in biology from Texas A&M University in 1979, a B.S. degree in pharmacy from the University of Texas at Austin in 1981, and a Ph.D. degree in pharmaceutics from the University of Texas at Austin in 1986. I am a licensed pharmacist.

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.