UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KOIOS PHARMACEUTICALS LLC

Petitioner

v.

MEDAC GESELLSCHAFT FUER KLINISCHE SPEZIALPRÄPARATE MBH

Patent Owner

IPR2016-01370 Patent No. 8,664,231

Title: Concentrated Methotrexate Solutions

PETITION FOR INTER PARTES REVIEW



Table of Contents

1.	INT	NTRODUCTION					
II.	GR	Grounds for Standing					
III.	III. Mandatory Notices						
	A.	Rea	al Party-In-Interest	2			
	В.	Rel	lated Matters	2			
	C.	Lea	ad and Back-Up Counsel, and Service Information	3			
IV.	7. PAYMENT OF FEES						
V.	OVERVIEW OF THE CHALLENGE						
	A.	Sui	mmary of the Challenge	4			
	B. Claims Challenged and Asserted Grounds of Unpatentability9						
	C.	C. Claim Construction10					
	D.	Lev	vel of Skill in the Art	11			
VI.	ED EXPLANATION OF THE CHALLENGE	12					
A. Ground 1: <i>Grint</i> Anticipates Claims 1, 2, 4-6, 11-13, 17, and 22							
		1.	Anticipation Standard.	12			
		2.	Ground 1 Claim Chart.	13			
		3.	Ground 1 Detailed Analysis.	16			
	B. Ground 2: Claims 7-10, 14-16, and 19-21 are Rendered Obvious by in View of <i>Arthur</i> , or Further in View of <i>Moitra</i> or <i>Insulin Admin</i>						
		1.	Ground 2 Claim Chart.	23			
		2.	Ground 2 Detailed Analysis.	26			
	C.	Gro	ound 3: Claim 18 is Rendered Obvious by Grint in View of Alsufyani	.28			



	1.	Ground 3 Claim Chart.	28
	2.	Ground 3 Detailed Analysis.	29
D	. Gr	ound 4: Claims 1-6, 11-13, 17-18, and 22 are Anticipated by Wyeth.	30
	1.	Ground 4 Claim Chart.	31
	2.	Ground 4 Detailed Analysis.	33
E A		ound 5: Claims 1-22 are Obvious Over <i>Wyeth</i> in View of <i>Brooks</i> and Further in View of <i>Moitra</i> or <i>Insulin Admin</i>	
	1.	Ground 5 Claim Chart.	38
	2.	Ground 5 Detailed Analysis.	44
F		ound 6: Claims 1-22 are Obvious Over <i>Hoekstra</i> and <i>Jørgensen</i> in V nur and/or <i>Insulin Admin</i>	
	1.	Ground 6 Claim Chart.	48
	2.	Ground 6 Detailed Analysis.	52
G	. Sec	condary Considerations Do Not Rebut Obviousness	54
	1. Co	MTX Toxicity from Subcutaneous Injection is Dose, Not oncentration, Dependent	54
	2. Co	MTX Bioavailability from Subcutaneous Injection is Dose, Not oncentration, Dependent	56
	3. Sp	Medac's Reliance on <i>Müller-Ladner</i> to Show Unexpected Results i ecious.	
	4.	Zackheim Does Not Teach Away	60
	5. Ad	Schiff Does Not Show That the Invention Is "Surprisingly lvantageous" Over the Prior Art	61
VII.	Тне	FACTS AND EQUITIES SUPPORT INSTITUTION UNDER § 325(D)	61
VIII.	Con	ICLUSION.	62



Table of Authorities

Cases Atlas Powder Co. v. IRECO, Inc., 190 F.3d 1342 (Fed. Cir. 1999)
Atofina v. Great Lakes Chemical Corp., 441 F.3d 991 (Fed. Cir. 2006)21
Ex Parte Ravi Arora, Anna Lee Tonkovich, Dongming Qiu, & Laura J. Silva,
APPEAL 2013-004020, 2015 WL 5171024 (Aug. 28, 2015)21
Galderma Labs v. Tolmar Inc., 737 F.3d 731 (Fed. Cir. 2013)61
Ineos USA LLC v. Berry Plastics Corp., 783 F.3d 865 (Fed. Cir. 2015) 20, 21
<i>Titanium Metals Corp. v. Banner</i> , 778 F.2d 775 (Fed.Cir.1985)13
Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628 (Fed. Cir. 1987)12



List of Exhibits

Exhibit 1001	U.S. 8,664,231 to Heiner Will, titled, "Concentrated Methotrexate Solutions," filed on March 4, 2009, and issued on March 4, 2014 ("the '231 Patent").
Exhibit 1002	Excerpts from File History for U.S. Patent No. 8,664,231.
Exhibit 1003	U.S. 6,544,504 to Paul Grint et al., titled, "Combined Use of
	Interleukin 10 and Methotrexate for Immunomodulatory Therapy,"
	filed on June 26, 2000, and issued on April 8, 2003 ("Grint").
Exhibit 1004	Hoekstra et al. (2004) J. Rheumatol. 31(4):645-47 ("Hoekstra").
Exhibit 1005	Jørgensen et al. (1996) Ann. Pharmacother. 30:729-32 ("Jørgensen").
Exhibit 1006	Alsufyani et al. (2003) J. Rheumatol. 31:179-82 ("Alsufyani").
Exhibit 1007	Declaration of Dr. Elena Massarotti, dated June 2, 2016, in
	support of Medac's Preliminary Response in IPR2016-00649.
Exhibit 1008	Brooks et al. (1990) Arthritis and Rheum. 33(1):91-94 (" <i>Brooks</i> ").
Exhibit 1009	Medac's Preliminary Response in IPR2016-00649, dated June
	2, 2016.
Exhibit 1010	Zackheim (1992) J. Am. Acad. of Derm. 23(6) p. 1008 ("Zackheim").
Exhibit 1011	Müller-Ladner (2010) The Open Rheumatology Journal 4:15-22.
	("Müller-Ladner").
Exhibit 1012	Weinblatt Declaration; Dated June 17, 2014 ("Weinblatt Decl.").
Exhibit 1013	Gammon Declaration; Dated June 27, 2014 ("Gammon Decl.").
Exhibit 1014	Pincus et al. (2003) Clin. Exp. Rheumatol. (Suppl. 31):S179-S185 (" <i>Pincus</i> ").
Exhibit 1015	Insulin Administration, Diabetes Care, 26:1 S121-S124 (2003)
	("Insulin Admin").
Exhibit 1016	Complaint in Medac Pharma, Inc. v. Antares Pharma, Inc., Nos.
	1:14-cv-01498-JBS-KMW.
Exhibit 1017	Portion of EPO prosecution for EP Application No. 07 786 239.9
	and Certified English Translation of the same.
Exhibit 1018	Weinblatt (1993) "Methotrexate," in Textbook of Rheumatology, 4th
	Edition, Chapter 47, (Kelley et al., eds. 1993) ("Weinblatt 1993").
Exhibit 1019	Schiff et al., "Head-to-head, randomized, crossover study of
	oral versus subcutaneous methotrexate in patients with
	rheumatoid arthritis," Ann. Rheum. Dis. 0:1-3 (2014)
	("Schiff").
Exhibit 1020	Weinblatt (1995) Efficacy of Methotrexate in Rheumatoid Arthritis,
	Br. J. Rheum. 34(suppl. 2):43-48 ("Weinblatt 1995").
Exhibit 1021	Product Label for the "Methotrexate Sodium for Injection" product by
	Wyeth, Date of First Authorization August 10, 1959, Date of



DOCKET A L A R M

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.

