Filed: November 19, 2019

| UNITED STATES PATENT AND TRADEMARK OFFICE |
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| BEFORE THE PATENT TRIAL AND APPEAL BOARD |
| MYLAN PHARMACEUTICALS INC., SAWAI USA, INC., AND SAWAI PHARMACEUTICAL CO., LTD. Petitioner, |
| V. |
| BIOGEN MA, INC. Patent Owner. |
| Case No. IPR2018-01403 ¹ Patent No. 8,399,514 |

UPDATED LIST OF PETITIONER'S EXHIBITS

Pursuant to 37 C.F.R. § 42.63(e), Petitioner submits the following current exhibit list.

¹ Case IPR2019-00789 has been joined with this proceeding.



| EXHIBIT NO. | DESCRIPTION |
|----------------|--|
| 1001 | U.S. Patent No. 8,399,514, <i>Treatment for Multiple Sclerosis</i> (filed Feb. 13, 2012) (issued Mar. 19, 2013) |
| 1002 | Declaration of John R. Corboy, M.D. |
| 1003 | Declaration of Leslie Benet, Ph.D. |
| 1004 | Declaration of Ian McKeague, Ph.D. |
| 1005 | Biogen News Release, <i>Phase II Study of Oral Compound BG-</i> 12 Meets Primary Endpoint in Multiple Sclerosis (Jan. 9, 2006) |
| 1006 | S. Schimrigk et al., A Prospective, Open-Label, Phase II Study of Oral Fumarate Therapy for the Treatment of Relapsing-Remitting Multiple Sclerosis, 10 (Suppl. 2) MULTIPLE SCLEROSIS CLIN. & LAB. RES. S258, Abstract P642 (2004) |
| 1007 | L. Kappos et al., Efficacy of a Novel Oral Single-Agent Fumarate, BG00012, in Patients with Relapsing-Remitting Multiple Sclerosis: Results of a Phase 2 Study, 253 (Suppl. 2) J. NEUROL. II27, O108 (2006) |
| 1008 | International Publication No. WO 2006/0037342 A2 (published Apr. 13, 2006) |
| 1009 | U.S. Patent No. 7,320,999, Dimethyl Fumarate for the Treatment of Multiple Sclerosis (filed July 17, 2002) (issued Jan. 22, 2008) |
| 1010 | NCT00168701, CLINICALTRIALS.GOV, https://clinicaltrials.gov/archive/NCT00168701/2005_09_14 |
| 1011 | ICH Harmonised Tripartite Guideline - Dose-Response Information to Support Drug Registration E4 (Mar. 10, 1994) |



| EXHIBIT NO. | DESCRIPTION |
|----------------|---|
| 1012 | S. Schimrigk et al., A Prospective, Open-Label, Phase II Study of Oral Fumarate Therapy for the Treatment of Relapsing-Remitting Multiple Sclerosis (2004), available at http://web.archive.org/web/ 20041021033354/ http://www.fumapharm.ch:80/pdf/BG-12 Schimrigk_Poster_Final.pdf ("Schimrigk 2004 Poster") |
| 1013 | N. Brune et al., Oral Fumarate Therapy Alters Cytokine Production in Patients with Relapsing-Remitting Multiple Sclerosis, 10 (suppl. 2) MULTIPLE SCLEROSIS CLIN. & LAB. RES. S259, Abstract P643 (2004) |
| 1014 | S. Schimrigk et al., An Open-Label, Prospective Study of Oral Fumaric Acid Therapy for the Treatment Relapsing-Remitting Multiple Sclerosis (RRMS), 64(6)(Suppl. 1) NEUROLOGY A392, S46.003 (2005) |
| 1015 | L. Kappos et al., A Randomised, Placebo-controlled Phase II Trial of a Novel Oral Single-Agent Fumarate Therapy, BG00012, in Patients with Relapsing-Remitting Multiple Sclerosis, 252 (Suppl. 2) J. NEUROL. II/148, P574 (2005) |
| 1016 | Biogen News Release, Oral Compound BG-12 Achieves Primary Endpoint in Phase II Study of Relapsing-Remitting Multiple Sclerosis; Treatment with BG-12 Led to Statistically Significant Reductions in MRI Measures (May 30, 2006) |
| 1017 | C. Nieboer et al., Fumaric Acid Therapy in Psoriasis: A Double-Blind Comparison between Fumaric Acid Compound Therapy and Monotherapy with Dimethylfumaric Acid Ester, 181 DERMATOLOGICA 33 (1990) |
| 1018 | S. Schimrigk et al., Oral Fumaric Acid Esters for the Treatment of Active Multiple Sclerosis: An Open-Label, Baseline-Controlled Pilot Study, 13 Eur. J. Neuol. 604 (2006) |



| EXHIBIT NO. | DESCRIPTION |
|----------------|---|
| 1019 | U. Mrowietz et al., <i>Dimethylfumarate for Psoriasis: More than a Dietary Curiosity</i> , 11(1) TRENDS Mol. Med. 43 (2005) |
| 1020 | Fumaderm® prescribing information |
| 1021 | H.M. Ockenfels et al., <i>The Antipsoriatic Agent Dimethylfumarate Immunomodulates T-Cell Cytokine Secretion and Inhibits Cytokines of the Psoriatic Cytokine Network</i> , 139 Br. J. Derm. 390 (1998) |
| 1022 | INTENTIONALLY LEFT BLANK |
| 1023 | R. de Jong et al., Selective Stimulation of T Helper 2 Cytokine Responses by the Anti-Psoriasis Agent Monomethylfumarate, 26 Eur. J. Immunol. 2067 (1996) |
| 1024 | P. Nibbering et al., Effects of Monomethylfumarate on Human Granulocytes, 101 J. INVEST. DERMATOL. 37 (1993) |
| 1025 | U.S. Patent No. 6,509,376, <i>Utilization of Dialkyfumarates</i> (filed Oct. 29, 1999) (issued Jan 21, 2003) |
| 1026 | Biogen News Release, BG-12 Psoriasis Study Meets Primary Endpoint; Oral Compound Also Being Studied for MS in Phase II Trial (Apr. 7, 2005) |
| 1027 | A.D. Ormerod et al., Fumaric Acid Esters, Their Place in the Treatment of Psoriasis, 150 Br. J. Dermatol. 630 (2004) |
| 1028 | U. Mrowietz et al., Treatment of Psoriasis with Fumaric Acid Esters: Results of a Prospective Multicentre Study, 138(3) Br. J. DERMATOL. 456 (1998) |
| 1029 | W. Nugteren-Huying et al., Fumaric Acid Therapy for Psoriasis: A Randomized, Double-Blind, Placebo-Controlled Study," 22(2) J. Am. ACAD. DERMATOL. 311 (1990) |



| EXHIBIT NO. | DESCRIPTION |
|----------------|---|
| 1030 | P. Altmeyer et al., Antipsoriatic Effect of Fumaric Acid Derivatives: Results of a Multicenter Double-Blind Study in 100 Patients, 30 J. Am. ACAD. DERMATOL. 977 (1994) |
| 1031 | C. Nieboer et al., Systemic Therapy with Fumaric Acid Derivatives: New Possibilities in the Treatment of Psoriasis, 20 J. Am. Acad. Derm. 601 (1989) |
| 1032 | N. Brune et al., Detection of Altered Intracellular TH1- and TH2-Type Cytokine Production of Peripheral Blood Mononuclear cells (PBMCs) in Patients with Relapsing-Remitting Multiple Sclerosis (RRMS) Undergoing an Oral Fumaric-Acid Ester Therapy, 4(4) MULTIPLE SCLEROSIS: CLINICAL AND LABORATORY RESEARCH P3038 (1998) (ECTRIMS 98:14th Congress of the European Committee for Treatment and Research in Multiple Sclerosis, Sept. 9-12, 1998, Stockholm, Sweden) |
| 1033 | S. Schimrigk et al., Oral Fumaric Acid Ester (FAE) in Relapsing-Remitting Multiple Sclerosis (RRMS). A Short Term, Open, clinical, Immunological and Magnetic Resonance Imaging (MRI) Controlled Phase II Trial, 246 (Suppl. 1) J. NEUROL. I/36, 144 (1999) (Ninth Meeting of the European Neurological Society, June 5-9, 1999, Milan, Italy) |
| 1034 | L. Kappos et al., A Randomized, Placebo-Controlled Phase 2 Trial of a Novel Oral Fumarate, BG00012, in Patients with Relapsing-Remitting Multiple Sclerosis (15th Meeting of the European Neurological Society, June 18-22, 2005), and Declaration of Gilmore O'Neill, M.D. |
| 1035 | A. Wierinckx et al., <i>Detoxication Enzyme Inducers Modify Cytokine Production in Rat Mixed Glial Cells</i> , 166 J. NEUROIMMUNOL. 132 (2005) |



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