**North County Neurology Associates/**
**The Research Center of Southern California, LLC**
6010 Hidden Valley Road, Suite 200 Carlsbad, CA 92011
Phone: 760-631-3000
Fax: 760-631-3007

# *Benjamin Mark Frishberg, M.D.*

## EDUCATION

**University of California, Berkeley, CA** ■ 1972

**University of Minnesota,** Minneapolis, Minnesota, ■ 06/1974
**B.A.,** Summa Cum Laude, Physiological Psychology

**University of Minnesota Medical School,** Minneapolis, Minnesota ■ 06/1979
**M.D.**

**University of California School of Medicine,** San Diego, CA ■ 06/1979 -06/1980
**Internship**, Internal Medicine

**University of California School of Medicine,** San Diego, CA ■ 07/1980 -06/1981
**Resident**, Internal Medicine

**University of California School of Medicine,** San Diego, CA ■ 06/1981 – 06/1984
**Resident**, Neurology

**Chief Resident**, Neurology, La Jolla Veterans Administration, La Jolla, CA ■ 07/1981 – 06/1984

**Emory University School of Medicine,** Atlanta, GA ■ 07/1984 – 06/1985
**Fellowship**, Neuro-Ophthalmology

## LICENSURE

- California Medical License Number – Active

## CERTIFICATIONS

- American Board of Psychiatry and Neurology, Certified in the Specialty of Neurology ■ 1985
- United Council of Neurologic Subspecialties, Certified in Headache Medicine ■ 2006-2020

## AWARDS

- Phi Beta Kappa ■ 1974
- Alpha Omega Alpha Honor Medical Society ■ 1979
- Honor Award – American Academy of Ophthalmology ■ 1994

## AWARDS CON'T

- Annual Teaching Award, Howard University Department of Ophthalmology ■ 1996
- Best Doctors Washington DC 1993 - 1997
- Best Doctors San Diego 2003, 2004, 2005, 2013, 2021
- Best Doctors in America 2005 - 2020
- Top Doctors in America 2010 - 2015

## PROFESSIONAL SOCIETIES

- American Academy of Neurology, Fellow
- North American Neuro-Ophthalmology Society, Fellow
- American Headache Society
- International Headache Society
- San Diego Neurologic Society
- Association of California Neurologists, Founding Member
- San Diego County Medical Society
- Headache Cooperative of the Pacific, Founding Member

## PROFESSIONAL EXPERIENCE

**Director of Clinical Research,** North County Neurology Associates/The Research Center of Southern California, Carlsbad, CA ■ 01/2016 – Present

**Chief Operating Officer** ■ 2016-2019
The Neurology Center of Southern California, Carlsbad, CA

**Medical Director** ■ 2013-2016
The Neurology Center of Southern California, Carlsbad, CA

**Director of Clinical Research,** The Research Center of Southern California, Oceanside, Encinitas, CA ■ 2014 –01/2016

**Director,** Multiple Sclerosis Center of Southern California ■ 2008-Present

**Co-Director,** The Headache Center of Southern California, La Jolla, California ■ 2000-2015

**Neurologist,** Private Practice, Neurology and Neuro-Ophthalmology
North County Neurology Associates dba The Neurology Center, Carlsbad, CA ■ 01/2016-Present

**Neurologist,** Private Practice, Neurology and Neuro-Ophthalmology
North County Neurology Associates dba The Neurology Center: Oceanside, Encinitas, ■ 09/1997-01/2016

**Principal Investigator and Sub-Investigator,** The Research Center of Southern California, LLC, Oceanside and Encinitas, California ■ 2007-01/2016

**Neurologist,** Private Practice, Neurology and Neuro-Ophthalmology
The Neurology Center, P.A., Chevy Chase, Maryland ■ 1985-1997

## PROFESSIONAL EXPERIENCE CONTINUED

**Clinical Professor of Neurosciences (Voluntary)**
University of California, San Diego■ 2013-present

**Clinical Associate Professor of Neurosciences (Voluntary)**
University of California, San Diego ■ 1998 – 2013

**Adjunct Associate Professor of Neurology, Neuro-Ophthalmology, and Headache Medicine**
Touro University School of Osteopathic Medicine, Las Vegas NV. ■ 2013-Present

**Clinical Professor of Ophthalmology/Director of Neuro-Ophthalmology**
Howard University School of Medicine, Washington D. C. ■ 1993-1997

**Clinical Assistant Professor of Neurology**
Georgetown University School of Medicine, Washington, D.C. ■ 1992-1997

**Clinical Assistant Professor of Neurology**
George Washington School of Medicine, Washington, D.C. ■ 1985-1997

**Associate in Ophthalmology**
Emory University, Atlanta, Georgia ■ 1984

## HOSPITAL AFFILIATIONS

- **Tri-City Medical Center**, Oceanside, California ■ 10/1997 – 12/2020
- **Scripps Memorial Hospital**, Encinitas, California ■ 12/1997 – 11/2020
- **Scripps Memorial Hospital,** La Jolla, California ■ 12/1997 – 04/2007
- **Palomar Hospital,** Escondido California ■ 10/2012 – 10/2017
- **Pomerado Hospital,** Poway, California, CA ■ 10/2012 – 10/2017
- **UCSD Medical Center**, San Diego, CA ■ 09/1998 – 09/2001 and 09/2007 – 09/2018

## PROFESSIONAL SERVICE

**AMA delegate for the North American Neuro-Ophthalmology Society: 2022-present**

**Committee Member and Co-Chair Development committee: 2018-present**

**AAN and Practice Committee** North American Neuro-Ophthalmology Society ■ 2018-2019

**Co-Chairman of the Frank Walsh Society Annual Meeting** ■ 1992 and 2015

**Chairman of the Ethics Committee,** North American Neuro-Ophthalmology Society ■ 2011-2014

**Treasurer, Headache Cooperative of the Pacific** ■ 2007-Present

**Chairman,** US Headache Consortium guidelines on Neuroimaging in Headache Update ■ 2005-2010

**Membership Committee,** American Headache Society ■ 2004-2007

**Site Management Committee,** North American Neuro-Ophthalmology Society ■ 2003-2006

**Finance Committee**, North American Neuro-Ophthalmology Society ■ 2002-2004

**Chief of Neurology**, Scripps Hospital, La Jolla, CA ■ 2002-2004

**Chief of Neurology**, Scripps Hospital, Encinitas, CA ■ 2001-2003

**Medical Advisory Board**, Myasthenia Gravis Foundations of California ■ 1999- 2020

**Program Director**, San Diego Neurological Society ■ 1999-2002

**Medical Economics Committee**, Association of California Neurologists ■ 1999-2004

**Ad Hoc Reviewer**, Headache ■ 1999-Present

**Ad Hoc Reviewer**, Neuro-Ophthalmology■ 2001-Present

**Ad Hoc Reviewer**, Cephalalgia ■ 2003-present

**Ad Hoc Reviewer**, American Journal of Ophthalmology ■ 2012-Present

**Ad Hoc Reviewer**, Lancet-Eye ■ 2012-Present

**Ad Hoc Reviewer**, CNS Drugs 2012-Present

**Team Leader**, Evidence Based Guidelines for Neuro-imaging in Primary Headache Disorders, United States Headache Consortium ■ 1994-1999

**Member,** American Academy of Neurology, United States Headache Consortium ■ 1996-1999

**Member**, American Board of Psych. and Neurology Committee on Recertification in Neurology ■ 1999-2006

**Member**, World Federation of Neurology (WFN) Research Group in Neuro-ophthalmology and Neuro-otology ■ 1998-1999

**Member**, Nominations Committee, American Academy of Neurology ■ 2000

**Member**, Practice Improvement Subcommittee, American Academy of Neurology ■ 1999-2001

**Member**, Medical Economics and Management Committee, American Academy of Neurology ■ 1993-1999

**Board Examiner**, American Board of Psychiatry and Neurology ■ 1999-2006

**Regional Medicare Carrier Advisory Committee** ■ 1993-1997

**Advisor**, American Academy of Neurology Advisor to the AMA's RBRVS Update Committee (R.U.C.) ■ 1994-1996

**Convention Planning Committee**, N. American Neuro-Ophthalmology Soc. ■ 1994-1998

**Managed Care Committee**, North American Neuro-Ophthalmology Society ■ 1999

**Member**, Quality Standards Committee, American Academy of Neurology ■ 1990-1993

**Chairman**, Medical Advisory, Myasthenia Gravis Foundation, Washington DC Chapter ■ 1989-1994

**President**, Phi Delta Epsilon Medical Fraternity, Washington DC Chapter ■ 1990-1991

## CME LECTURE ACTIVITIES

"Efficacy and safety of satralizumab from two phase 3 trials in neuromyelitis optica spectrum disorder," Platfrom Presentation. Z. Haskiva B. Frishberg, J. de Seze, B. Weinshenker, Y. Terada, Y. Kawata, A. Gianella-Borradori, C. von Büdingen, G. Klingelschmitt, A. Traboulsee, T. Yamamura. ARVO Virtual Presentation ■ May 2020

"Efficacy and safety of satralizumab from two phase 3 trials in neuromyelitis optica spectrum disorder," Platfrom Presentation. B. Frishberg, J. de Seze, B. Weinshenker, Y. Terada, Y. Kawata, A. Gianella-Borradori, C. von Büdingen, G. Klingelschmitt, A. Traboulsee, T. Yamamura. Annual NANOS Meeting- Amelia Island FL ■ March 2020

The Eyes Have it: TBI Med-Legal San Diego, CA ■ April 2019

What Neuro-Ophthalmologists need to know about Headache ■ April 2019
North American Neuro-Ophthalmology Association Annual Meeting, Las Vegas

Neuro-Ophthalmology of Traumatic Brain Injury. ■ March 2019
Scripps Neuro-Rehabilitation Annual Conference

Updates on Migraine Management in Primary Care.Interfaith Medical Center ■ January 2019
Grand Rounds. Brooklyn New York

Forum on Neurotoxins for Headache and Facial Spasms. NANOS Annual Meeting ■ February 2018

Panelist on Wait, Wait, Don't Tell me at Headache Cooperative of the Pacific Annual Meeting ■ 2017,2018,2019

The Visual Symptoms of Migraine: Headache Cooperative of the Pacific Annual Meeting ■ 2016

Neuro-Ophthalmologists Guide to Botulinum Toxins: NANOS annual meeting, Tucson, AZ ■ 2016

Co-Chairman of Headache Session: NANOS Annual Meeting, Puerto Rico ■ March 2014

Host of Wait-Wait: Don't Tell Me at the Headache Cooperative of the Pacific Annual Meeting ■ 2014, 2015, 2016

Neuro-Ophthalmology of Brain Injury, 8th Annual Brain Injury Conference, Carlsbad CA ■ 2013

Neuro-Imaging in Headache Disorders, 5th Annual Winter Meeting of the Headache Cooperative of the Pacific (HCOP), Ojai, CA. ■ 2012

Guest Lecturer, International Headache Society Headache Master's Program, Sao Paulo Brazil ■ September 2011

Overview of MS for Primary Care: Scripps Neurology for Primary Care Symposium, La Jolla CA ■ October 2010

Optic Neuritis and Multiple Sclerosis. Breakfast with the Experts, American Academy of Ophthalmology Annual Meeting, Chicago ■ October 2010

Things Mistaken as Migraine. American Academy of Ophthalmology Annual Meeting, Chicago ■ October 2010

Medication Overuse Headache: 3rd Annual Fall Symposium, Headache Cooperative of the Pacific, Carlsbad CA 9 American Academy of Ophthalmology Annual Meeting, Chicago ■ October 2010

Idiopathic Intracranial Hypertension: Clinical Pearls. Second Annual Headache Cooperative of the Pacific. Ojai CA. ■ January 2010

Billing and Coding in Headache Management, First Annual Headache Cooperative of the Pacific Meeting ■ February 2008

Visual Impairment in Traumatic Brain Injury, Brain Injury Rehabilitation, Scripps Hospital, Encinitas CA ■ May 2007

Introduction to Migraine, Head and Eye Pain Course, American Academy of Ophthalmology ■ November 2006

Fundamentals of Migraine Prevention, Del Mar, CA ■ September 2006

Visiting Professor of Neuro-Ophthalmology, California Pacific Medical Center ■ May 2006

Participant, Migraine Innovators Program, Berlin Germany■ May 2006

Botox for Chronic Daily Headache, Honolulu Hawaii ■ April 20016

Painful Ophthalmoplegia in Emergency Neuro-Ophthalmology Course, AAN Annual meeting ■ April 2006

Evaluation of Diplopia, Residents talk for UCSD Department of Ophthalmology ■March 2006

Course Director, Botox in Neuro-Ophthalmology, NANOS annual meeting ■ February 2006

Course Director, 7th Annual Neurology for Primary Care Update Course ■ February 2006

Diagnosis and Therapy of Migraine, Inland Valley Pain Seminar, Temecula, CA. ■ October 2005

Botox for Chronic Daily Headache, Las Vegas, NV. ■ September 2005

Guide to Migraine Management, San Diego Pilipino Medical Society, San Diego, CA, ■ August 2005

Platform presentation, American Headache Society, BOTOX CDH Study Group Botulinum Toxin Type A (BOTOX) for the Prophylactic Treatment of Chronic Daily Headache: A Randomized, Double-Blind, Placebo-Controlled Trial, Philadelphia, PA ■ June 2005

Platform presentation, American Academy of Neurology, BOTOX CDH Study Group Botulinum Toxin Type A (BOTOX) for the Prophylactic Treatment of Chronic Daily Headache: A Randomized, Double-Blind, Placebo-Controlled Trial, Miami Fl ■ March 2005

Course Director: Headache and Facial Pain Symposium, North American Neuro-Ophthalmology Society, Copper Mountain CO ■ February 2005

Course Director, 6th Annual Neurology for Primary Care Update Course ■ February 2005

MS Diagnosis and Therapy, 6th Annual Neurology for Primary Care Update Course ■ February 2005

"Clinical Approach to Eye Movement Disorders", UCSD Dept of Ophthalmology Resident Lecture Series, ■ January 2004

"Optimizing Patient Compliance, Primary Care Network, La Jolla, CA. ■ January 2004

"Primer on Multiple Sclerosis", The Neurology Center 5th annual primary Care Update, ■ January 2004

"Professor's Rounds", Department of Neurosciences, UCSD School of Medicine, ■ January 2004

"Migraine: Treatment Approaches do make a Difference", Pri-Med Annual Meeting, Boston MA. ■ November 2003

"Neurotoxins and their Ophthalmic Uses", Orange County Ophthalmologic Society, Newport Beach, ■ November 2003

Neuroimaging in Headache for National Ambassador's Program, Cincinnati, OH. ■ October 2003

"Migraine Care Program, La Jolla, CA. ■ October 2003

"Neurotoxins and their use in Pain, Las Vegas, NV. ■ October 2003

"Neuroimaging in Headache Disorders" and "Cluster Headache", Kaiser Southern California Headache Management Seminar, Garden Grove, CA.. ■ September 2003

"New Options in Migraine Therapy", Inland Valley Hospital CME Program, Temecula CA. ■ September 2003

"Basic Headache Management", Primary Care Approach to Pain, Palomar Hospital, Escondido, CA. ■ August 2003

Primary Care Network, "Approaching Headache", Dallas, Los Angeles, New York, ■ April 2003

"Topiramate in the Treatment of Headache", Orange County, ■ April 2003

"Neurotoxins and their Clinical Applications" Scripps Memorial Hospital Grand Rounds, ■ April 2003

North American Women's Healthcare Forum, "Migraine Update", Anaheim ■ March 2003

Fourth Annual Neurology Update for Primary Care, "The Role of Primary Care in the Diagnosis and Treatment of Multiple Sclerosis" ■ March 2003

Fourth Annual Neurology Update for Primary Care, Program Director ■ March 2003

"Neuro-Ophthalmic Issues in Neuro-Rehabilitation", Grand Rounds, Scripps Encinitas Department of Rehabilitation, ■ Jan 2003

Sinus Headache CME Program, ■ October 2002

National Ambassador Program, "Diagnostic Testing in Headache", Phoenix, Dallas, Seattle ■ 2002

Invited Speaker, San Diego Academy of Family Practice Annual Meeting, "Approaching the Diagnosis and Treatment of Headache" ■ May 2002

Third Annual Neurology Update, Case Based Approach to Migraine ■ May 2002

Third Annual Neurology Update, Program Director ■ May 2002

"Lids and Pupils", Lecture to UCSD Neurology Residents ■ May 2002

"A New Option for the Management of Primary Headache, CME Program, Beverly Hills, CA ■ May 2002

"Debates in Headache", AAN Annual meeting, After Dinner Course, Denver, CO ■ April 2002

Rounds, Department of Neurology, University of Utah, Salt Lake City, UT, "The Visual Phenomena of Migraine", Salt Lake City, UT ■ March 2002

Multiple Sclerosis and Women's Health Issues, North American Women's Healthcare Forum, Anaheim, CA ■ March 2002

National Ambassador's Program ■ 2001-2002

Migraine Management, Annual Pain Seminar, Carlsbad, CA, ■ September 2001

Web Presentation, Headache and Neuro-imaging, www.virtual-headache.com ■ August 2001

Neurology in OB-GYN, North American Women's, HealthCare Forum, Los Angeles, CA ■ June 2001

New Horizons in Migraine Prevention, Grand Rounds Presentation, JFK Memorial Hospital, Indio, CA, (CME) ■ May 2001

New Horizons in Migraine Prevention, Grand Rounds, Desert Regional Hospital, Hemet, CA (CME) ■ May 2001

New Horizons in Migraine Prevention, Grand Rounds, Eisenhower Hospital, Palm Springs, CA (CME) ■ May 2001

Update on Migraine Management: Case based studies, Pri-Med Regional Update Courses, Long Island, Philadelphia, St. Paul, San Francisco, Detroit, Phoenix, Seattle, Cincinnati, Baltimore (CME) ■ March 2001

Second Neurology Annual Update, Course Director and Lecture, La Jolla, CA (CME) ■ February 2001

Controversies in Headache Management, San Diego Neurologic Society, (CME) ■ January 2001

Women's Issues in Migraine Diagnosis and Management, Las Vegas (CME) ■ December 2000

Principles of Migraine Management, Sharp Mission Park, Medical Education Meeting, Carlsbad, CA. (CME) ■ November 2000

Botox in Migraine Headache, Section of Neurology Meeting, Eu
gene, Oregon (CME) ■ November 2000

Headache: Diagnosis and Diagnostic Testing, Ambassador Program, Long Beach, CA (CME), ■ September 2000

Migraine: Issues in Diagnosis and Treatment, St. Cloud, MN (CME) ■ August 2000

Coding Issues in the MS patient, Biogen Regional MS Update Course ■ July 2000

Migraine 2000: Issues in Diagnosis and Management, Kern County PA and RNP Association, Bakersfield, CA, (CME), ■ July 2000

Migraine and Hormones, CME Program for Bakersfield Women's Health Group (CME) ■ July 2000

Invited Speaker: Neuro-imaging in Headache, Report of the US, Headache Consortium, Plenary Session, American Headache, Society Annual Scientific Meeting, Montreal, Canada (CME) ■ June 2000

Migraine Management: Case based studies, Pri-Med Regional, Update Courses, Houston, Philadelphia, St. Paul, San Francisco, Atlanta, Cincinnati, Baltimore (CME) ■ May 2000

Migraine Basics for OB-GYN, Las Vegas OB-GYN Association (CME) ■ April 2000

Migraine Management: What do patients really want? Pri-Med Regional Primary Care Meeting, Long Beach, CA ■ April 2000

Migraine Diagnosis and Management, Kern County Nurse Practitioner/Physician Assistant Association, Bakersfield, CA (CME) ■ March 2000

The Headache Dilemma, Grand Rounds Presentation, Great Falls Hospital, Great Falls, MT (CME) ■ March 2000

Efficacy of the Triptans, Merck Regional Consultants Meeting, Williamsburg, VA, 3/2000

Basics of Headache Diagnosis and Management, First Annual Neurologic Update for Primary Care, La Jolla, CA, (CME), 2/2000

The ABC's of Multiple Sclerosis Treatment, First Annual Neurologic Update for Primary Care, La Jolla, CA (CME), 2/2000

Basics in Diagnosis and Management of Migraine, Kaiser Dept. of OB-GYN, Baldwin Park, CA., (CME), 1999

Coding and Management in the Multiple Sclerosis Clinic, Biogen Regional Consultants Meeting, 1999

Neuro-Ophthalmology in Stroke Rehabilitation, Stroke Rehabilitation: Evidence Based and Practical, Management, Los Angeles, CA, ASNR and AAN, 1999

Practice Issues in Rehabilitation: Coding and Reimbursement, Issues: Evidence Based and Practical Management, Los Angeles, CA. ASNR and AAN, 1999

An Ophthalmologist's Guide to Migraine, Visions in Ophthalmology, Scripps Memorial Hospital, 1999

Capitation in Neurology, The Southern California Experience, AAN Advanced Practice Management Course, 1999

Course Director, Basic Practice Management for Neurologists, American Academy Neurology Regional Courses, Atlanta, San Diego, Dallas and New York, 1999

Course Director: "Basic Practice Management for Neurologists," American Academy of Neurology

Annual Meeting, Boston, Minneapolis, Toronto and San Diego, 1999

The Visual Phenomena of Migraine, UCSD Neurology Grand Rounds, 1998

Treatment of Spasticity, San Diego Chapter, National Multiple Sclerosis Society, 1998

Treatment Options in MS, San Diego Chapter, National Multiple Sclerosis Society, 1998

Migraine, Diagnosis and Treatment, Four Seasons, Carlsbad, CA, 1998

Neuroimaging in Primary Headache Disorders, St. Joseph Hospital, Orange, CA, 1998

Practice Mergers and Acquisitions, American Academy, Regional Course, San Diego, CA, 1998

Practice Mergers and Acquisitions, American Academy of Neurology, Annual Meeting, Minneapolis, 1998

Diagnosis and Treatment of Alzheimer's disease, Sharp Mission Park Medical Clinic CME Program, Oceanside, CA

Basics of Managed Care and Healthcare Integration, American Academy of Neurology Annual Meeting, Boston, Minneapolis, 1997

Neuro-Ophthalmology in the Era of Managed Care, 11$^{th}$ Annual Alumni Conf., Howard Univ., 1997

Coding Issues in Neurology, Department of Neurology, University of Mississippi, 1996

Managed Care, Department of Neurology, University of Mississippi, 1996

Giant Cell Arteritis - the Good, the Bad, and the Ugly, 10th Annual Alumni Conference, Howard Univ., 1996

Managed Care and Healthcare Integration, Neurology Society Course on Managed Care at Yale University, 1996

Healthcare Integration, American Academy of neurology Annual Meeting, San Francisco, California, 1996

Managed Care Issues for Neuro-Ophthalmologists, North American Neuro-Ophthalmology Society, 1996

Ophthalmic Manifestations of Cat Scratch Disease, 9th Annual Alumni Conference, Howard University, Washington, D.C., 1995

Reimbursement Issues in Neuroimaging, Columbia University Course on Functional Brain Imaging, 1995

Basics of Managed Care, American Academy of Neurology Annual Meeting, Seattle, Washington, 1995

When is Ocular Migraine Not Ocular Migraine? Scientific Session, American Academy of Ophthalmology, 1994

An Ophthalmologist's Guide to Migraine, Course Director, American Academy of Ophthalmology Annual Meeting, 1985-1993

Acute Visual Loss: Neuro-Ophthalmic Considerations, Associate Instructor, American Academy of Ophthalmology National Meeting, 1991-1993

Neuro-Ophthalmic Features of Lyme Disease, Neuro-Ophthalmology Update Course, Fairfax Hospital, 1990

Course Director, Neuro-Ophthalmology Update Course, Fairfax Hospital, 1990

MRI of the Cavernous Sinus, Presentation at North American Neuro-Ophthalmology, Society Meeting, Steamboat Springs, Colorado, 1990

Painful Horner's Syndrome, Department of Ophthalmology, Grand Rounds, Georgetown University, 1989

Transient Visual Loss, American Academy of Ophthalmology Regional Update Course, 1987

Neuro-Ophthalmology for the Emergency Room Physician. A Guide to Cerebrovascular disease, Kaiser Permanente Emergency Medical Annual Review, Long Beach, CA, 1986

1. Nejadnik B, Weintraub AH, Cramer SC, Steinberg GK, Kawabori M, Kesari S, Imai H, Groysman LI, Yasuhara T, Frishberg BM, Schwartz NE, Bates D, McAllister P. Efficacy and safety outcomes in patients with chronic traumatic brain injury: final analysis of the randomized, double-blind, surgical sham-controlled phase 2 STEMTRA trial. *To be presented at the 3rd Edition of the International Conference on Tissue Engineering and Regenerative Medicine. London, England, UK; August 21-23, 2023.*

2. Weintraub AH, Cramer SC, Steinberg GK, Kawabori M, Kesari S, Imai H, Groysman LI, Yasuhara T, Kim AS, Frishberg BM, Schwartz NE, Nejadnik B, Bates D, McAllister P. Final analysis of the double-blind, randomized, surgical sham-controlled, Phase 2 STEMTRA Trial: 1-year safety and efficacy outcomes in patients with chronic motor deficits secondary to traumatic brain injury. *To be presented at the 14th World Congress on Brain Injury. Dublin, Ireland; March 29-April 1, 2023.*

3. McAllister P, Frishberg BM, Lai A, Yasuhara T, Cramer SC, Kawabori M, Munin MC, Schwartz NE, Nejadnik B, Bates D, Imai H, Weintraub AH. Efficacy and safety outcomes in patients with chronic traumatic brain injury: final analysis of the phase 2 STEMTRA trial. *Presented at the Annual Meeting of the American Academy of Neurology. Seattle, WA; April 24-26, 2022.*

**4.** Prem S. Subramanian, Jason J. S. Barton, Paul Ranalli, Craig Smith, Courtney E Francis, **Benjamin Frishberg**. ***Consensus Statement on Visual Rehabilitation in Mild Traumatic Brain Injury*****,** Neurol Clin Pract Aug 2022.

5. Masahito Kawabori, MD, PhD, Alan H. Weintraub, MD, Hideaki Imai, MD, PhD, Iaroslav Zinkevych, MD, Peter McAllister, MD, Gary K. Steinberg, MD, PhD, **Benjamin M. Frishberg, MD**, Takao Yasuhara, MD, Jefferson W. Chen, MD, PhD, Steven C. Cramer, MD, Achal S. Achrol, MD, Neil E. Schwartz, MD, PhD, Jun Suenaga, MD, PhD, Daniel C. Lu, MD, PhD, Ihor Semeniv, MD, Hajime Nakamura, MD, Douglas Kondziolka, MD, Dai Chida, PhD, Takehiko Kaneko, MD, Yasuaki Karasawa, MD, Susan Paadre, MPH, Bijan Nejadnik, MD, Damien Bates, MD, PhD, Anthony H. Stonehouse, PhD, R. Mark Richardson, MD, PhD, and David O. Okonkwo, MD, PhD
*Cell Therapy for Chronic TBI*
Interim Analysis of the Randomized Controlled STEMTRA Trial Neurology. 2021 Feb 23; 96(8):

6. Blumenfeld AM, **Frishberg BM,** Schim JD, Iannone A, Schneider G, Yedigarova L, Manack Adams A. Real-world evidence for control of chronic migraine patients receiving CGRP monoclonal antibody therapy added to onabotulinumtoxinA: A retrospective chart review. *Pain and Therapy*. Accepted for publication.

7. Blumenfeld AM, **Frishberg BM**, Schim JD, Iannone A, Schneider G, Yedigarova L, Manack Adams A. Real-World Evidence for Control of Patients With Chronic Migraine Who Received CGRP Monoclonal Antibody Therapy Added to OnabotulinumtoxinA

8. Treatment. MTIS (2020) Migraine Trust International Symposium - 2020 Virtual Symposium. Published October 3, 2020.

9. Blumenfeld AM, **Frishberg BM**, Schim JD, Iannone A, Yedigarova L, Manack Adams A. Real-World Evidence for Control of Patients With Chronic Migraine Who Received CGRP Monoclonal Antibody Therapy Added to OnabotulinumtoxinA Treatment. HCOP (2021) Headache Cooperative of the Pacific - 14th Annual Winter Conference. Published January 28, 2021.

10. Blumenfeld AM, **Frishberg BM**, Schim JD, Hughes O, Manack Adams A. Real-World Evidence for Control of Chronic Migraine (CM) in Patients Meeting American Headache Society (AHS) Criteria Who Received Calcitonin Gene–Related Peptide Monoclonal Antibody (CGRPmAb) Therapy Added to OnabotulinumtoxinA Treatment. DHCREF (2021) Diamond Headache Clinic Research and Educational Foundation - 2021 Annual Research Summit. Published March 1, 2021.

11. Blumenfeld AM, **Frishberg BM**, Schim JD, Hughes O, Yedigarova L, Manack Adams A. Real-World Evidence for Control of Patients With Chronic Migraine Who Received CGRP Monoclonal Antibody Therapy Added to OnabotulinumtoxinA Treatment. AMCP (2021) Academy of Managed Care Pharmacy 2021 - 33rd Annual Meeting & Expo. Published April 13, 2021.

12. **Blumenfeld AM**, Frishberg BM, Schim JD, Iannone A, Yedigarova L, Manack Adams A. Real-World Evidence for Control of Chronic Migraine (CM) in Patients Meeting American Headache Society (AHS) Criteria Who Received Calcitonin Gene–Related Peptide Monoclonal Antibody (CGRPmAb) Therapy Added to OnabotulinumtoxinA Treatment. AAN (2021) American Academy of Neurology 2021 - 73rd Annual Meeting. Published April 17, 2021.
13. Blumenfeld AM, **Frishberg BM**, Schim JD, Hughes O, Yedigarova L, Manack Adams A. Real-World Evidence for Control of Chronic Migraine (CM) in Patients Meeting American Headache Society (AHS) Criteria Who Received Calcitonin Gene–Related Peptide Monoclonal Antibody (CGRPmAb) Therapy Added to OnabotulinumtoxinA Treatment. AHS (2021) American Headache Society - 63rd Annual Scientific Meeting. Publication expected June 4, 2021.

14. Blumenfeld AM, **Frishberg BM**, Schim JD, Hughes O, Manack Adams A. Real-World Evidence for Control of Patients With Chronic Migraine Who Received Calcitonin Gene–Related Peptide Monoclonal Antibody Therapy Added to OnabotulinumtoxinA Treatment. AHS (2021) American Headache Society - 63rd Annual Scientific Meeting. Publication expected June 4, 2021.

15. Posterior Cortical Atrophy: Characteristics From a Clinical Data Registry.
    Olds JJ, Hills WL, Warner J, Falardeau J, Alasantro LH, Moster ML, Egan RA, Cornblath WT, Lee AG,**Frishberg BM**, Turbin RE, Katz DM, Charley JA, Pelak VS.Front Neurol. 2020 Jun 3;11:358

*16.* Okonkwo DO, McAllister P, Kawabori M, Chen JW, **Frishberg BM,** Achrol AK, Gross RE, Steinberg GK, Imai H, Lu D, Yasuhara T, Bates D. Safety and Clinical Outcomes in Traumatic Brain Injury Patients: Interim Analysis of the STEMTRA Trial. *Presented at the American Association of Neurological Surgeons Meeting. San Diego, CA; April 16, 2019.*

*17.* Kawabori M, Okonkwo DO, McAllister P, Chen JW, **Frishberg BM**, Achrol AK, Gross RE, Steinberg GK, Imai H, Yasuhara T, Suenaga J, Nakamura H, Karasawa Y, Hamada J, Bates D, Kaneko T. Safety and Clinical Outcomes in Traumatic Brain Injury Patients: Interim Analysis of the STEMTRA Trial. *Presented at the 14th Korea-Japan Joint Conference on Surgery for Cerebral Stroke. Sapporo, Japan; April 26-28, 2019.*

*18.* Karasawa Y, Imai H, Okonkwo DO, McAllister P, Kawabori M, Chen JW, **Frishberg BM,** Yasuhara T, Suenaga J, Nakamura H, Bates D, Kaneko T. Safety and Clinical Outcomes in Traumatic Brain Injury Patients: Interim Analysis of the STEMTRA Trial. *Presented at the 20th Annual Meeting of the Japan Society for Molecular Neurosurgery. Tokyo, Japan; August 8-9, 2019.*

19. Neuroimaging for Migraine: The American Headache Society Systematic Review and Evidence-Based Guideline. Evans RW, Burch RC, **Frishberg BM**, Marmura MJ, Mechtler LL, Silberstein SD, Turner DP.Headache. 2020 Feb;60(2):318-336. doi: 10.1111/head.13720. Epub 2019 Dec 31.

20. Posterior Cortical Atrophy: Characteristics From a Clinical Data Registry. Olds JJ, Hills WL, Warner J, Falardeau J, Alasantro LH, Moster ML, Egan RA, Cornblath WT, Lee AG,**Frishberg BM**, Turbin RE, Katz DM, Charley JA, Pelak VS.Front Neurol. 2020 Jun 3;11:358

*21.* Okonkwo DO, McAllister P, Kawabori M, Chen JW, **Frishberg BM,** Achrol AK, Gross RE, Steinberg GK, Imai H, Lu D, Yasuhara T, Bates D. Safety and Clinical Outcomes in Traumatic Brain Injury Patients: Interim Analysis of the STEMTRA Trial. *Presented at the American Association of Neurological Surgeons Meeting. San Diego, CA; April 16, 2019.*

*22.* Kawabori M, Okonkwo DO, McAllister P, Chen JW, **Frishberg BM**, Achrol AK, Gross RE, Steinberg GK, Imai H, Yasuhara T, Suenaga J, Nakamura H, Karasawa Y, Hamada J, Bates D, Kaneko T. Safety and Clinical Outcomes in Traumatic Brain Injury Patients: Interim Analysis of the STEMTRA Trial. *Presented at the 14th Korea-Japan Joint Conference on Surgery for Cerebral Stroke. Sapporo, Japan; April 26-28, 2019.*

*23.* Karasawa Y, Imai H, Okonkwo DO, McAllister P, Kawabori M, Chen JW, **Frishberg BM,** Yasuhara T, Suenaga J, Nakamura H, Bates D, Kaneko T. Safety and Clinical Outcomes in Traumatic Brain Injury Patients: Interim Analysis of the STEMTRA Trial. *Presented at the 20th Annual Meeting of the Japan Society for Molecular Neurosurgery. Tokyo, Japan; August 8-9, 2019.*

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*25.* Steinberg GK, Okonkwo DO, Semeniv I, Zinkevych L, McAllister P, Kawabori M, Chen JW, **Frishberg BM,** Achrol AK, Lai A, Gross RE, Weintraub AH, Lu D, Yasuhara T, Imai H, Paadre S, Niakian M, Kaneko T, Bates D. Safety/Efficacy of Bone Marrow-Derived Mesenchymal Stem Cells (SB623) Implantation after Chronic Traumatic Brain Injury. *Presented at the American Academy of Neurological Surgery 81st Annual Meeting. Rome, Italy; September 19, 2019.*

*26.* Imai H, Kawabori M, Yasuhara T, Okonkwo DO, McAllister P, Chen JW, **Frishberg BM,** Achrol AK, Gross RE, Steinberg GK, Lu D, Suenaga J, Nakamura H, Bates D, Kaneko T. One-Year Safety Outcomes in Traumatic Brain Injury Patients after Implantation of Modified BM-Derived MSCs (SB623): The STEMTRA Trial. *Presented at the 78th Annual Meeting of the Japan Neurological Society. Osaka, Japan; October 9-12, 2019.*

***27.*** Cramer SC, Semeniv I, McAllister P, Ikeda S, **Frishberg BM,** Lai A, Shinoda Y, Weintraub AH, Munin MC, Schwartz NE, Bates D. Interim Analysis of the STEMTRA Trial: Safety and Dose-Dependent Benefit in Traumatic Brain Injury Patients. *To be presented at the American Congress of Rehabilitation Medicine Meeting. Chicago, IL; November 6, 2019.*

***28.*** Steinberg GK, Okonkwo DO, Semeniv I, Zinkevych L, McAllister P, Kawabori M, Chen JW, **Frishberg BM**, Achrol AK, Lai A, Gross RE, Weintraub AH, Lu D, Yasuhara T, Imai H, Paadre S, Niakian M, Kaneko T, Bates D. Safety and Efficacy of Intracerebral Implantation of Modified Bone Marrow-Derived Mesenchymal Stem Cells (SB623) in Patients with Chronic Motor Deficit from Traumatic Brain Injury. *To be presented at the 65th Annual Meeting of the Western Neurosurgical Society. Scottsdale, AZ; November 8-11, 2019.*

***29.*** Weintraub AH, Semeniv I, McAllister P, Ikeda S, **Frishberg BM,** Lai A, Shinoda Y, Cramer SC, Munin MC, Schwartz NE, Bates, D. Safety and Clinical Outcomes in Chronic Traumatic Brain Injury Patients: Pre-Specified Interim Analysis of the STEMTRA Trial. *To be presented at the 15th Annual Conference on Brain Injury. New Orleans, LA; February 27-29, 2020.*

*30.* McAllister P, Semeniv I, Weintraub AH, Ikeda S, **Frishberg BM**, Lai A, Shinoda Y, Cramer SC, Munin MC, Schwartz NE, Nejadnik B, Bates D. Pre-Specified Interim Analysis of the STEMTRA Trial: Clinical Outcomes in Chronic Traumatic Brain Injury Patients. *Submitted to the Annual Meeting of the American Academy of Neurology. Toronto, Canada; April 25-May 1, 2020.*

31. **Benjamin Frishberg MD,** Headache and the Eye, in *Headache and Migraine Biology and Management,* Ed. Seymour Diamond, pp175-188. Elsevier 2015.

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Cephalalgia. 2015 Feb 23. pii: 0333102415572919. [Epub ahead of print] No abstract available.

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Choosing wisely in headache medicine: the American Headache Society's list of five things physicians and patients should question.
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Continuum (Minneap Minn). 2014 Aug;20(4 Neuro-ophthalmology):1075-83. doi: 10.1212/01.CON.0000453301.12486.47.

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Neuro-ophthalmology and its contribution to headaches: a case-based approach.
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38. Stephen D. Silberstein, MD; Alexander Mauskop, MD; **Benjamin M. Frishberg, MD**; Stewart J. Tepper, MD; Peter McAllister, MD; Sheena K. Aurora, MD Frederick G. Freitag, DO.
*Predictors of Outcomes of Botulinum Toxin Type A in the Preventive Treatment of Headache,* Poster presentation at Migraine Trust Meeting, London, 2006.

39. Stephen D. Silberstein, MD; Alexander Mauskop, MD; **Benjamin M. Frishberg, MD**; Stewart J. Tepper, MD; Peter McAllister, MD; Sheena K. Aurora, MD Frederick G. Freitag, DO. *Program to Assess Headache Treatmetn Strategies: An Observational Study of Botulinum Toxin Type A in the Preventive Treatmetn of Migraine.* Headache. 2006; 46: 846.

40. Paul Winner, DO, Roger K. Cady, MD; Gary E. Ruoff, **Benjamin M. Frishberg et al** *Long-term Safety and Tolerability of a Fixed Single-Tablet Formulation of Sumatriptan RT Technology and Naproxen Sodium in the Acute Treatment of Migraine*. Headache. 2006; 46:859-860.

41. Ninan T. Mathew, MD,† **Benjamin M. Frishberg, MD**,* Marek Gawel, MB, BCh, FRCPC,‡ Ronald DeGryse, MS, MA,§ Catherine Turkel, PharmD, MBA§ *Botulinum Toxin Type A for the Prophylaxis of Chronic Daily Headache in Migraineurs: A Randomized, Double-Blind, Placebo-Controlled Trial*. Abstract, European Federation of Neurologic Societies meeting 2005.

42. Michael S. McCracken, MD; **Benjamin Frishberg, MD**; David B. Granet, MD; and Don O. Kikkawa, MD., Treatments for Functional Disorders: Off-Label Uses of Botulinum Toxin in *Cosmetic and Clinical Applications of Botulinum Toxin, ed William Lipham MD, Slack Publishing, 2004.*

43. Mathew NT, **Frishberg BM**, Gawel M, Dimitrova R, Gibson J, Turkel C; BOTOX CDH Study Group. *Botulinum Toxin Type A (BOTOX) for the Prophylactic Treatment of Chronic Daily Headache: A Randomized, Double-Blind, Placebo-Controlled Trial*, Headache.2005 Apr;45(4):293-307.

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57. Frishberg, BM, Spector, RH. Abdominal Mass and Bilateral Orbital Masses. Proc. Frank B. Walsh Society, 1986.

58. Frishberg, BM, Spector, RH. Neuro-Ophthalmologic Clues to Parasellar Disease. Contemporary Neurosurgery, Vol. 7, No. 19, 1985.

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60. Milstein, J, Frishberg, BM. The Effect of Neonatal Hypothyroidism on Immature Rat Brain Mitochondrion. Proc Am Academy of Neurology, 1974

## RESEARCH ACTIVITIES

**Alzheimer's Disease**

Suloctidil study for Alzheimer's disease, Monsanto, Principal Investigator -1987

Parke-Davis 979-14: A 26-week, randomized, double-blind, placebo-controlled, parallel-group, multi-center with a sustained active phase study of Milameline (CI-979/RU 35926) in patients with probable Alzheimer's disease. Sub-Investigator - 1995

**Alzheimer's Disease *Continued***

Parke-Davis 979-16: Open label extension of A 26-week, randomized, double-blind, placebo-controlled, parallel-group, multi-center with a sustained active phase study of Milameline (CI-979/RU 35926) in patients with probable Alzheimer's disease. Sub-Investigator - 1996

970-68-23: A 16-week randomized, double-blind, placebo-controlled parallel-group, dose-response multi-center study of Tacrine (CI-970) once-a-day formulation (Tacrine GITS) with a 16-month open-label extension in patients with dementia of the Alzheimer's type. Sub-Investigator - 1996

970-68-23: Open label extension of A 16-week randomized, double-blind, placebo-controlled parallel-group, dose-response multi-center study of Tacrine (CI-970) once-a-day formulation (Tacrine GITS) with a 16-month open-label extension in patients with dementia of the Alzheimer's type. Sub-Investigator – 1996

GAL-INT-11: A randomized double blind placebo-controlled trial to evaluate the efficacy and safety of galantamine in subjects with mild cognitive impairment (MCI) clinically at risk for development of clinically probably Alzheimer's disease. Sub-Investigator – 2001

TVP1012-A001-201- A 1-Year, double-blind, randomized, placebo-controlled study of Rasagiline 1 mg and 2 mg added to Aricept 10 mg daily in patients with mild to moderate dementia of the Alzheimer's type. Sub-Investigator - 2004

VP-AD-301: A Double-Blind Placebo-Controlled Study of VP4896 for the Treatment of Mild to Moderate Alzheimer's Disease. Principal Investigator - 2006

PRX-03140: A Randomized, Double-Blind, Placebo Controlled, Phase IIa Study to Assess the Short-Term Effects of PRX-03140 Alone and in Combination with Donepezil in Subjects with Mild Alzheimer's Disease. Sub- Investigator – 2006

ELN115727-301 & 302: A Phase III, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel Group, Efficacy and Safety Trail of Bapineuzumab (AAB-001,ELN115727 in Patients with Mild to Moderate Alzheimer's Disease who are Apolipoprotein E $\varepsilon$4 Non- Carriers (301) or Carriers (302).Sub-Investigator - 2008

ELN115727-351: A Phase 3 Extension, Multicenter, Double-Blind, Long Term Safety and Tolerability Treatment Trial of Bapineuzumab (AAB-001, ELN115727) in Subjects with Alzheimer's Disease who Participated in Study ELN115727-301 or in Study ELN115727-302. Sub-Investigator – 2009

AAB-001-SC-ALZ-2003: A Phase 2, Randomized, Double-Blind, Placebo-Controlled, Parallel Group, Multi-Center, Biomarker, Safety, and Pharmacokinetic Study of Bapineuzumab (AAB-001) Administered Subcutaneously at Monthly Intervals in Subjects with Mild to Moderate Alzheimer's Disease. Sub-Investigator – 2010

PrecisionMed 8009: Sample registry: Serial Alzheimer's disease and MCI prospective longitudinal evaluation longitudinal cognition follow-up and serial DNA/RNA/SERUM/PLASMA/CSF banking in subjects with MCI or MILD Alzheimer's disease. Sub- Investigator - 2013

Starbeam/Lundbeck: Alzheimer's Study Randomized, double-blind, parallel-group, placebo-controlled, fixed-dose study, of Lu AE58054 in patients with mild-moderate Alzheimer's disease-Treated with donepezil. Sub-Investigator – 2015

**Alzheimer's Disease *Continued***

I8D-MC-AZET: A Randomized, Double-Blind, Placebo-Controlled and Delayed-Start study of Ly3314814 in Mild Alzheimer's Disease Dementia (The Daybreak Study) Principal Investigator – 2016

BN29553: A Phase III, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Efficacy and Safety Study of Creneuzumab in Patients with Prodromal to Mild Alzheimer's Disease. Study Coordinator – 2017

251AD201: Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Assess the Safety, Tolerability and Efficacy of BIIB092 in Subjects with Mild Cognitive Impairment due to Alzheimer's Disease or with Mild Alzheimer's Disease. Principal Investigator – 2017

I5T-MC-AACI. Assessment of safety, tolerability, and efficacy of Donanemab in early symptomatic Alzheimer's disease. Principal Investigator – 2020

TempO-Seq Whole Blood Assay for Evaluation of Progression and Outcome in Neurodegenerative and other Diseases. Sub-investigator – 2021

PTI-125-06 A Phase 3, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, 76-Week Study Evaluating the Safety and Efficacy of Two Doses of Simufilam in Subjects with Mild-to Moderate Alzheimer's Disease. Principal Investigator – 2021

I9X-MC-MTAE - Assessment of Safety, Tolerability, and Efficacy of LY3372689 in Early Symptomatic Alzheimer's Disease. Principal investigator - 2022

**Epilepsy**

M92-813: Tiagabine HCl administration in patients with epilepsy. Sub-Investigator - 1995

3310101018: A multi-center, double-blind, placebo-controlled, randomized, parallel-group trial of Rufinamide as adjunctive therapy in patients with inadequately controlled primary generalized tonic-clonic seizures. Principal Investigator - 1997

E2080-A001-301: A Double-Blind, Placebo-Controlled, Parallel-Group Study of Rufinamide Given as Adjunctive Therapy in Patients with Refractory Partial Seizures. Principal Investigator – 2006

A phase 3, multicenter, randomized, double-blind, placebo-controlled, parallel-group study to evaluate the efficacy and safety of padsevonil as adjunctive treatment of focal-onset seizures in adult subjects with drug-resistant epilepsy.Sub-Investigator – 2019

**Migraine**

S2b-350: Imitrex (Sumatriptan Succinate) injection, post-marketing surveillance study. Sub-Investigator - 1995

**Migraine *Continued***

CN115-0038—22: An open label long-term trial evaluating the safety of BMS-180048 150mg in the treatment of patients with migraine headache with or without aura. Sub-Investigator - 1996.

ALN-INT-16: The efficacy and safety of Alniditan (1.4 or 1.8 mg SC) vs. Sumatriptan (6 mg SC) in the acute treatment of migraine: A randomized, double-blind, placebo-controlled, single-dose trial. Sub-Investigator -1996

S2WA3003: A randomized, double-blind, placebo-controlled, crossover study to evaluate the safety and efficacy of oral Naratriptan in the acute treatment of four migraine attacks. Sub-Investigator - 1995

ALN-USA-18: Open evaluation of the long-term efficacy, safety and tolerability of 1.4 mg SC Alniditan in the acute treatment of migraine attacks. Sub-Investigator - 1996

SUMA4015: A randomized, double-blind, placebo-controlled study to evaluate the impact of sumatriptan injection on workplace productivity loss due to migraine (Imitrex). Sub-Investigator -1996

VML 251/96/07: A double-blind placebo-controlled, parallel-group study to assess the efficacy and safety of up to two doses of VML251 in the acute treatment of migraine.(Vanguard) Sub-Investigator - 1997

1042-0117.12: A Double-Blind, Parallel, Placebo-Controlled, Single-Dose, Outpatient Study of Ganaxolone for the Treatment of Migraine With or Without an Aura. Sub-Investigator - 1998

S2WA 3001 - A Randomized, Double-Blind, Placebo-Controlled, Dose Ranging Study to Evaluate the Efficacy and Safety of Four Doses of Oral Naratriptan in the Acute Treatment of a Single Migraine Attack. Sub-Investigator - 1995

S2WA 1007 - A Study to Evaluate the Pharmacokinetics and Pharmacodynamics of Oral Naratriptan in Migraine Subjects. Sub-Investigator -1995

CN102-021 - A Randomized, Double-Blind Trial Comparing the Safety and Efficacy of Butorphanol Tartrate Nasal Spray Versus Acetaminophen and Codeine Phosphate Capsules Versus Placebo in Patients with Acute Migraine Headache Pain. Sub-Investigator - 1996

SUMA 4014 - A Double-Blind, Placebo-Controlled Parallel Group Study to Evaluate the Efficacy of a Second Sumatriptan Succinate Tablet (25 or 50 mg.) In the Acute Treatment of Migraine. Sub-Investigator -1996

311C90 - A Double Blind, Randomized Comparison of Zolmatriptan and Sumatriptan in the Acute Treatment of Multiple Migraine Headaches. Sub-Investigator - 1997

VML251/90/06 - A Double Blind, Placebo Controlled, Parallel Group Study to Assess the Efficiency and Safety of a Single Dose of VML251 (2.5mg) in the Acute Treatment of Migraine. Sub-Investigator -1997

LY303870 - Dose Comparison of LY303870 in the Long Term Prophylaxis of Migraine. Sub-Investigator - 1997

## RESEARCH ACTIVITIES CONTINUED

**Migraine *Continued***

M/3275/0011: A long-term open label safety study of Almotriptan 12.5 mg orally in migraine patients." Sub-Investigator - 1988

CN115-038-031 - "An Open Label Long-Term Trial Evaluating the Safety of BMS-180048 150 mg in the Treatment of Patients with Migraine Headache With or Without Aura." – 1996

191622-037-01: A Multi-center, Double-Blind, Randomized, Placebo-Controlled, Parallel Group Study of BOTOX® (Botulinum Toxin Type A) Purified Neurotoxin Complex of the Prophylactic Treatment of Migraine Headaches in the Episodic Migraine Population. Sub-Investigator - 2000

191622-038: A Multi-center, Randomized, Placebo-Controlled, Parallel Group Study of BOTOX® (Botulinum Toxin Type A) Purified Neurotoxin Complex for the Prophylactic Treatment of Headaches in the Chronic Headache Population. Sub-Investigator – 2000

191622-024-00: A Multi-center, Double-Blind, Randomized, Placebo-Controlled, Parallel Group Study of the Safety and Efficacy of three dosages of BOTOX (Botulinum Toxin, Type A) Purified Neurotoxin Complex for the Prophylactic Treatment of Migraine Headaches. Sub-Investigator - 2000

A1601022: A Multi-center Trial to Evaluate the Efficacy, Tolerability and Subject Satisfaction with Eletriptan in the Treatment of Migraine Headache Attacks in Neurology Practices. Sub-Investigator - 2000

CAPSS-155: A Comparison of the Efficacy and Safety of Topamax® (Topiramate) Tablets Versus Placebo for the Prophylaxis of Migraine. Sub-Investigator 2001

MT100-308 – A Double Blind, Placebo-Controlled, Study to Evaluate the Safety and Efficacy of MT 100 Versus Over-Encapsulated Sumatriptan in Subjects with Acute Migraine Attacks. – Sub-Investigator – 2001

MT100-402 – A Double Blind, Randomized Placebo-Controlled, Study to Evaluate the Safety and Efficacy of MT 100 for the Treatment of Migraine in Subjects Who Are Intolerant to 5-HT Agonists or Have Cardiovascular Risk Factors. – Sub-Investigator – 2001

MT100-401A – A Double Blind, Randomized, Placebo-Controlled Study to Evaluate the Safety and Efficacy of a Two Tablet Dose of MT 100 for Treatment of Migraine in Imitrex® Non-responders. – Sub-Investigator – 2001.

MT 300-302 – A Randomized-Double-Blind, Placebo Controlled Evaluation of the Safety and Efficacy of MT 300 in the Acute Treatment of Migraine. Sub-Investigator - 2002

SUM40298 – A Randomized, Double-Blind, Placebo-Controlled, Single Attack, Parallel-Group Evaluation of the Efficacy of Sumatriptan 50mg Tablets versus Placebo in the Treatment of Self-Described and/or Physician-Diagnosed Sinus Headaches that Meet International Headache Society (HIS) Criteria for Migraine Headache. Sub-Investigator - 2001

**Migraine *Continued***

VML251/00/02 – A Double-Blind, Placebo-Controlled, Three-Way Crossover clinical Study to Assess the Safety and Efficacy of Two Dose Regimens of Frovatriptan, Compared with Placebo, in Preventing Menstrually Associated Migraine (MAM) Headaches. Sub-Investigator – 2002

311CUS/0022: A Multi-center, Randomized, Placebo-Controlled, Double-Blind, Parallel-Group Trial to Evaluate Early Efficacy and Tolerability of Zolmitriptan (Zomig) Nasal Spray in the Acute Treatment of Adult Subjects with Migraine. Sub-Investigator - 2002

E2020-A001-211: A 20-week Multi-center, Randomized, Double-Blind, Placebo-Controlled, Preliminary Study to Evaluate The Efficacy and Safety of Two Fixed Doses (5mg and 10 mg) of Donepezil Hydrochloride (E2020) in Migraine Prophylaxis. Sub-Investigator - 2002

SUM40299 “A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Evaluate the Efficacy and Tolerability of Oral Sumatriptan 25mg, 50mg, and 100mg tablets for a Single Moderate or Severe Headache in Adults Diagnosed with Migrainous Disorder (HIS 1.7) .Sub-Investigator –2002

MT300-401- A Multi-center Randomized, Single-Blind, Evaluation of Three Injectable Anti-Migraine Drugs. Sub-Investigator - 2003

CL1776-005 – A Phase 2 Safety and Efficacy Study of NPS 1776 for the Acute Treatment of Migraine Headaches. Principal Investigator – 2004

001 – A Randomized, Evaluator-Masked Trial to Evaluate the Efficacy of Botox Compared with Depakote in Migraine Prevention. Sub Investigator – 2004

3420AG1 – Program to Assess Treatment Strategies: A Botox Observational Program. Principal Investigator – 2003

MT400-303: An Open-label, Repeat Dose Study of the Safety of Combo Formulation in the Treatment of Multiple Episodes of Acute Migraine Over 12 Months. Principal Investigator - 2004

065-00- (Maxalt). A Multicenter, Double-Blind, Randomized, Parallel, Placebo-Controlled Study to Examine the Efficacy of Rizatriptan 10-mg Tablet Administered Early During a Migraine Attack While the Pain is Mild. Principal-Investigator - 2004

MT400-301 (POZEN) A Double-Blind, Multicenter, Randomized, Placebo-Controlled Single Dose Study To Evaluate The Safety And Efficacy Of Trexima In The Acute Treatment Of Migraine Headaches. Principal-Investigator - 2004

VML251-3MRM/02: A double-blind, placebo-controlled, parallel group study, with an open-label extension phase, to assess the efficacy, tolerability and safety of oral frovatriptan in the prevention of menstrual related migraine (MRM) headaches in a “difficult to treat” population. Sub-Investigator - 2005

E2007-A001-210- “A Randomized, Double-Blind, Placebo-Controlled, Multi-Center, Parallel-Group Study to Evaluate the Efficacy and Safety of E2007 in Migraine Prophylaxis. Principal Investigator - 2005

**Migraine *Continued***

A Single-Center, Double-Blind Comparison of BOTOX® (Botulinum Toxin Type A) and DEPAKOTE® for the Prophylactic Treatment of Migraine Headaches- Pilot Study. Sub-Investigator - 2004

A Single-Center, Double-Blind Comparison of Botox and Topiramate for the Prophylactic Treatment of Chronic Migraine Headache. Sub-Investigator – 2005

1602: A Multi-Center, Randomized, Single-Blind, Controlled Study to Obtain Preliminary Safety and Efficacy Data for ONS Treatment of Chronic Migraine Headache. Sub-Investigator - 2005

TRX103632/635: A Randomized, Double-Blind, Multi-Center, Placebo Controlled, Cross-Over Study to Determine the Consistency of Response for TREXIMA (Sumatriptan 85mg/Naproxen Sodium 500mg) in the Acute Treatment of Multiple Migraine Attacks. Principal Investigator -2006

TRX106573: A Randomized, Double-Blind, Multi-Center, Placebo-Controlled, Cross-Over Study of Trexima® in Migraine Subjects Who Report Poor Response or Intolerance to Relpax®. Sub-Investigator - 2006

NL-2006-001:A Phase III, Randomized, Double-Blind, Parallel Group, Sham-Controlled Study Evaluating the Efficacy and Safety of Non-Invasive Non-Repetitive Transcranial TMS Stimulation (TMS) For the Acute Preventive Treatment of the Aura Phase of Migraine Headache. Principal Investigator - 2007

TON/03/07-CLIN: A Multi-Centre, Parallel Group, Double-Blind, Placebo Controlled, Dose Ranging Study of the Efficacy and Tolerability of Tonabersat in the Prophylaxis of Migraine Headache and Open Label Extension. Principal Investigator - 2007

BTX0805: Safety and Efficacy of Botulinum Neurotoxin Type A in the Treatment of Forward Head Posture with Associated Chronic Tension Type Headache using a Novel Fixed sit Injection Paradigm. – 2009

NXN-188-203: A Phase 2 Study of the Safety and Effectiveness of a Single Oral Dose of NXN 188 for the Treatment of Moderate to Severe Migraine Headache with Aura. Sub-Investigator – 2009

NXN-188-204: A Phase 2 Study of the Safety and Effectiveness of a Single Oral Dose of NXN 188 for the Treatment of Moderate to Severe Migraine Headache without Aura. Sub-Investigator – 2009

0462-082-00. A Worldwide, Randomized, Double Blind, Placebo-Controlled, Parallel Group Clinical Trial to Evaluate the Safety and Efficacy of Rizatriptan for the Acute Treatment of Migraine in Children and Adolescents. Sub-Investigator - 2010

Botox Adolescent: BOTOX (Botulinum Toxin Type A) Purified neurotoxin complex as headache prophylaxis in adolescents (Children 12 to < 18 years of age) with chronic migraine. Sub-Investigator - 2012

**Migraine *Continued***

COMPEL: An open-label, multicenter study of the long-term efficacy, safety and tolerability of BOTOX for the prophylaxis of headaches in adult patients with chronic migraine.Sub-Investigator - 2012

Electrocore: Non-invasive Neurostimulation of the vagus nerve with the GammaCore device for the treatment of cluster headache. Sub-Investigator - 2013

Labrys: A multicenter, randomized, double-blind, double-dummy, placebo-controlled, parallel group, multi-dose study comparing the efficacy and safety of subcutaneous LBR-101 with placebo for the preventive treatment of chronic migraine. Sub-Investigator - 2014

Forward: A Multicenter, Prospective, Randomized, Open-label Study to Compare the Efficacy, Safety, and Tolerability of BOTOX® and Topiramate for Headache Prophylaxis in Adults with Chronic Migraine. Sub-Investigator - 2014

Evidera: A prospective, observational study for the psychometric evaluation of a novel migraine-related functional impact instrument in episodic and chronic migraine. Sub-Investigator - 2014

A Multicenter, Randomized, Double-blind, Placebo-controlled Study Evaluating the Efficacy and Safety of MLD10 in the Prevention of Migraine Headache in Adults. Protocol NO: MLD10-002. Sub-investigator - 2015

ALD403-CLIN-011: A Parallel Group, Double-Blind, Randomized, Placebo Controlled Phase 3 Trial to Evaluate the Efficacy and Safety of ALD403 Administered Intravenously in Patients with Chronic Migraine. Sub-Investigator – 2016

UBR-MD-04 A Muliticenter, Randomized, Open-Label, Extention Study To Evaluate the Long Term Safety, and Tolerability of Oral Ubrogepant in the Acute Treatment of Migraine With or Without Aura. Sub-Investigator – 2016

UBR-MD-01 A Phase 3, Muliticenter, Randomized, Double-Blind, Placebo-Controlled Single Attack Study to Evaluate the Efficacy, Safety, and Tolerability of Oral Ubrogepant in the Acute Treatment of Migraine. Sub-Investigator – 2016

CGP-MD-0: A phase 2/3, multicenter, randomized, double-blind, placebo controlled, parallel-group study to evaluate the efficacy, safety, and tolerability of multiple dosing regimes of oral AGN-241689 in episodic migraine prevention. Sub-Investigator – 2017

A Randomized, Double-Blind, Parallel Group, Placebo-Controlled, Multicenter Study to Evaluate the Efficacy, Safety, and Tolerability of Single Doses of STS101 (Dihydroergotamine Nasal Powder) in the Acute Treatment of Migraine. Principal Investigator – 2019

Premium II- A randomized, multicenter, double blind, parallel, sham controlled study of non-invasive vagus nerve stimulation (NVNS) for the prevention of mingraines. Sub-Investigator – 2019

A Parallel Group Double-Blind Randomized Placebo- Controlled Study to Evaluate the Efficacy and Safety of Eptinezumab Administered Intravenously in Subjects Experiencing an Acute Attack of Migraine. Protocol Number ALD403-CLIN-015. Sub-Investigator – 2019

**Migraine *Continued***

Nerivio TCH-008 - A prospective, Randomized, double-blind, sham-controlled multi-center clinical study assessing the safety and efficacy of Nerivio for the preventive treatment of migraine. Sub-Investigator– 2021

**Multiple Sclerosis**

Copolymer I Protocol 01-9002 - A Long-Term Open Label Study to Evaluate the Safety of Copolymer I and to Extend Its Availability to Patients with Relapsing-Remitting Multiple Sclerosis. Principal Investigator- 1994
BL01-3112 -Phase III, Double-Masked, Placebo-Controlled Study to Evaluate the Safety and Efficacy of Two Doses of Betaseron in Patients with Secondary-Progressive Multiple Sclerosis. Principal Investigator - 1996

6002i -Phase II Study of Hu23F2G in Acute Exacerbation of Multiple Sclerosis. Principal Investigator - 1997

CAMMS223-A1, A Phase II, Randomized, Open-Label, Three-Arm Study Comparing Low- and High-Dose Rebif in Patients with Early, Active Relapsing-Remitting Multiple Sclerosis. Sub-Investigator - 2003

9006- (TEVA). A Multi-Center, Randomized, Double-Blind, Parallel Group Study to Evaluate the Efficacy, Tolerability, and Safety of 40mg of Copaxone in the Treatment of Relapsing-Remitting Multiple Sclerosis Patients. Sub-Investigator - 2004

A 24-month double-blind, randomized, multicenter, placebo-controlled, parallel-group study comparing the efficacy and safety of 0.5 mg and 1.25 mg fingolimod (FTY720) administered orally once daily versus placebo in patients with relapsing-remitting multiple sclerosis with optional extension phase Protocol No.: CFTY720D2309 Extension to CFTY720D2309 (A 24-month double-blind, randomized, multicenter, placebo-controlled, parallel-group study comparing the efficacy and safety of 0.5mg and 1.25mg fingolimod (FTY720) administered orally once daily versus placebo in patients with relapsing-remitting multiple sclerosis. Sub-Investigator - 2006

28821. A Phase III, Randomized, Double-Blind, Placebo-Controlled, Multi-Center Clinical Trial of Oral Cladribine in Subjects with a First Clinical Event at High Risk of Converting to MS. Principal Investigator – 2006

CFTY720D2302. A 12-Month Double-Blind, Randomized, Multi-Center, Active-Controlled Parallel-Group Study Comparing the Efficacy and Safety of 0.5 mg and 1.25 mg Fingolimod (FTY720) Administered Orally Once Daily Versus Interferon β-1a (Avonex ®) Administered I.M. Once Weekly in Patients with Relapsing-Remitting Multiple Sclerosis. Sub-Investigator - 2007

MPB8298-SP-03. A Double-Blind, Placebo Controlled Multi-Center Study to Evaluate the Efficacy and Safety of MBP8298 in Subjects with Secondary Progressive Multiple Sclerosis. Principal Investigator - 2007

ACT 10573: A Double Blind, Placebo-Controlled, Randomized Crossover, Activity Study of Single Oral Doses of 50 mg and 400 mg Nerispirdine on Visual Function in Patients with Multiple Sclerosis. Principal Investigator – 2008

## RESEARCH ACTIVITIES CONTINUED

**Multiple Sclerosis *Continued***

29652: A 12-week, Phase IIIb, Open-Label, Single-Arm, Multicenter Trial to Evaluate Ease of use of an Electronic Auto injector (RebiSmart™) for Self-Injection in Subjects with Relapsing Multiple Sclerosis (RMS) treated with Rebif® 44mcg Subcutaneously three times a week. Principal Investigator - 2009

DRI 10566: A 14-Week, Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study to Evaluate the Efficacy, Safety, and Tolerability of Nerispirdine 50 mg, 100mg, and 200 mg in Patients with Multiple Sclerosis. Principal Investigator – 2009

H9B-MC-BCDJ: (a) -Multiple Subcutaneous Doses of LY2127399, an Anti-BAFF Human Antibody, in Subjects with Relapsing-Remitting Multiple Sclerosis. Principal Investigator – 2009

Nerispirdine (HP184): Clinical Trial - ACT10573: A double-blind, placebo-controlled, randomized crossover, activity study of oral doses of 50 mg and 400 mg nerispirdine on visual function in patients with multiple sclerosis, IND # 61,494. Principal Investigator – 2009

101MS325: A Multicenter, Randomized, Rater-Blinded, Parallel-Group, Active-Controlled Study to Evaluate the Benefits of Switching Therapy (Glatiramer Acetate or Interferon ß-1a) to Natalizumab in Subjects with Relapsing-Remitting Multiple Sclerosis. Principal Investigator – 2010

CFTY720DUS01: A 6-month, Randomized, Active Comparator, Open-label, Multi- Center Study to Evaluate Patient OutComes, Safety and Tolerability of Fingolimod 0.5 mg/day in Patients with Relapsing Forms of Multiple Sclerosis who are candidates for MS therapy change from Previous Disease Modifying Therapy (EPOC). Principal Investigator - 2010

EFC6058: A Multi- Center Double-Blind Parallel-Group Placebo-Controlled Study of the Efficacy and Safety of Teriflunomide in Patients with Relapsing Multiple Sclerosis who are Treated with Interferon-Beta. Principal Investigator – 2010

RebiDose Human Factors. A three-arm multicenter trial to preform human factors testing of the investigational RebiDose ready to use single use auto injector device including simulated injections in subjects with relapsing multiple sclerosis (RMS), caregivers, and nurses. Principal Investigator – 2011

CFTY720D2399 UMBRELLA: A Single arm, open-label, multicenter study evaluating the long-term safety and tolerability of 0.5mg fingolimod (FTY720) administered orally once daily in patients with relapsing forms of multiple sclerosis (LONGTERMS) Principal Investigator – 2011

RebiSmart Human Factors: A three-arm, multicenter trial to perform human factors testing of the investigational RebiSmart electronic auto-injector device including simulated injections in subjects with relapsing multiple sclerosis (RMS), caregivers, and nurses. Principal Investigator - 2012

FTY Prefer: A 12-month, Prospective, Randomized, active-controlled, open label study to evaluate the patient retention of Fingolimod vs. approved first-line disease modifying therapies in adults who are in early stages of treatment for Relapsing Remitting multiple sclerosis. Principal Investigator – 2012

**Multiple Sclerosis *Continued***

Novartis Assess FTY (2312) Fingolimod vs. Glatiramer Acetate A 12-month, randomized, rater and dose-blinded study to compare the efficacy and safety of fingolimod 0.25mg and 0.5mg administered orally once daily with glatiramer acetate 20mg administered subcutaneously once daily in patients with relapsing-remitting multiple sclerosis. Principal Investigator - 2012

GMA-NDO-112: Bladder management in patients with multiple sclerosis: Optimizing practice patterns. Principal Investigator - 2013

CBAF312A2304: A multicenter, randomized, double-blind, parallel-group, placebo-controlled variable treatment duration study evaluating the efficacy and safety of Siponimod (BAF312) in patients with secondary progressive multiple sclerosis. Principal Investigator - 2013

GLACIER GA-MS-303: An Open-Label, Randomized, Multi-Center, Parallel-Arm Study to Assess the Safety and Tolerability of Glatiramer Acetate 40mg/ml Three Times a Week Compared to 20mg/mL Daily Subcutaneous Injections in Subjects with Relapsing-Remitting Multiple Sclerosis. Prinicpal Investigator - 2013

Novartis Passage: Long-term, prospective, multinational, parallel-cohort study monitoring safety in patients with MS newly started on fingolimod once daily or treated with another approved disease-modifying therapy. Principal Investigator - 2015

A multicenter, open-label phase IV study to evaluate whether a Medication Event Monitoring System (MEMS®) can improve adherence to Tecfidera® (delayed-release dimethyl fumarate) treatment in multiple sclerosis patients. Principal Investigator – 2015

Actelion: Multicenter, randomized, double-blind, double-dummy, parallel-group, active-controlled, superiority study to compare the efficacy and safety of ponesimod to teriflunomide (Aubagio) in subjects with relapsing multiple sclerosis. Principal Investigator – 2015

A multicenter, open-label phase IV study to evaluate whether a Medication Event Monitoring System (MEMS®) can improve adherence to Tecfidera® (delayed-release dimethyl fumarate) treatment in multiple sclerosis patients. Principal Investigator – 2015

CHORDS MN30035: An Open-Label Study To Evaluate The Effectiveness And Safety Of Ocrelizumab in Patients with Relapsing Remitting multiple Sclerosis Who Have Had A Suboptimal Response To An Adequate Course Of Disease-Modifying Treatment. Principal Investigator – 2016

Actelion AC-058B303: Multicenter, non-comparative extension to study AC-058B301, to investigate the long-term safety, tolerability, and control of disease of ponesimod 20mg in subjects with relapsing multiple sclerosis: Principal Investigator – 2017

TG1101-RMS301: Phase III: UbLiTuximab In Mutliple Sclerosis Treatment Effects (ULTIMATE I Study). Principal Investigator – 2017

ADAMAS ADS-AMTMS301– A 3-arm multicenter double blind placebo controlled randomized study to assess the efficacy and safety of ADS-5102 Amantadine extended release capsules in MS patients with walking impairment, ADS-AMT-MS301. Principal Investigator – 2018

ABBVIE M14-397 – MS Safety and Efficacy study of Elezanumab (ABT-555) in Progressive Forms of MS. Principal Investigator – 2018

## RESEARCH ACTIVITIES CONTINUED

**Multiple Sclerosis *Continued***

ABBVIE M18-918 – MS Safety and Efficacy study of Elezanumab (ABT-555) in Relapsing Forms of MS. Principal Investigator – 2018

BN42082: A phase IIIB multicenter, randomized double blind, controlled study to evaluate the efficacy, safety and pharmacokinetics of a higher dose of Ocrelizumab in adults with relapsing multiple sclerosis. Principal Investigator - 2019

GN41851. A phase III multicenter, randomized, double blind, double-dummy, parallel-group study to evaluate the efficacy and safety of Fenebrutinib compared with Teriflunomide in adult patients with relapsing Multiple Sclerosis. Principal Investigator- 2020

**Myasthenia Gravis**

RA101495-02.201: A Phase 2, Multicenter, Randomized, Double Blind, Placebo-Controlled Study to Evaluate the Safety, Tolerability, and Preliminary Efficacy of RA101495 in Subjects with Generalized Myasthenia Gravis. Principal Investigator - 2017

A Phase 2, Multicenter, Randomized, Double-Blind. Placebo-Controlled Study to evaluate the Safety, Tolerability, and Preliminary Efficacy of RA101495 in Subjects with Generalized Myasthenia Gravis. Principal Investigator – 2017

ARGX-113-1704. A Randomized, Double Blind, Placebo-Controlled, Multicenter Phase 3 Trial to Evaluate the Efficacy, Safety and Tolerability of ARGX-113 in Patients with Myasthenia Gravis Having Generalized Muscle Weakness. Sub-Investigator – 2019

ARGX-113-1705. A Long-Term, Single-Arm, Open-Label, Multicenter, Phase 3 Follow-on Trial of ARGX-113-1704 to Evaluate the Safety and Tolerability of ARGX-113 in Patients with Myasthenia Gravis having Generalized Muscle Weakness. Sub-Investigator – 2020

RVT-1401-2002. A Phase 2a, Multicenter, Randomized, Double Blind, Placebo-Controlled Study with an Open-Label Extension of RVT-1401 in Myasthenia Gravis Patients. Sub-Investigator – 2020

MG-001 Autologous T-cells expressing a chimeric antigen receptor directed to B-cell maturation antigen (BCMA) in patients with generalized myasthenia gravis (MG) Sub-Investigator - 2021

ARGX-113-2001 A Phase 3, Randomized, Open-Label, Parallel-Group Study to Compare the Pharmacodynamics, Pharmacokinetics, Efficacy, Safety, Tolerability, and Immunogenicity of Multiple Subcutaneous Injections of Efgartigimod PH20 SC With Multiple Intravenous Infusions of Efgartigimod in Patients With Generalized Myasthenia Gravis. Sub-Investigator 2021

ARGX-113-2002 A Long-Term, Single-Arm, Open-label, Multicenter Phase 3 Study to Evaluate the Safety and Tolerability of Multiple Subcutaneous Injections of Efgartigimod PH20 SC in Patients With Generalized Myasthenia Gravis. Sub-Investigator 2021

## RESEARCH ACTIVITIES CONTINUED

**Myasthenia Gravis Continued**

ARGX-113-2003 A Phase 3b, Randomized, Open-label, Parallel-Group Study to Evaluate Different Dosing Regimens of Intravenous Efgartigimod to Maximize and Maintain Clinical Benefit in Patients With Generalized Myasthenia Gravis. Sub-Investigator 2021

**Parkinson's disease**

HL18317: An open, randomized, multi-center study to assess the efficacy and safety of 1.25mg O.D. and 5 mg B.D. (or 10mg O.D.) Zydis Selegiline in the control of symptoms of Parkinson's Disease in patients stabilized in a regimen including Selegiline. Sub-Investigator- 1996

NR15440/M35016 **:** Non-comparative Open Label Study to Identify Tasmar Dosage Regimen in Non-Fluctuating Parkinson's Disease Patients Treated with Sinemet; with Follow-Up Extension of Tasmar. Sub-Investigator - 1997

Z/SEL/95/008 EXTENSION – An open, multi-center parallel group continuation study to assess the safety of 1.25mg qd and 10mg qd Zydis Selegiline in the control of symptoms of Parkinson's disease in patients stabilized on a regimen including Selegiline. Sub-Investigator -1998

RP54274X-320: A Phase III Multi-center, Double-Blind, Parallel-Group, Placebo Controlled Study of the Effect of Riluzole 50 mg BID or 100 mg BID for Two Years on the Progression of Parkinson's Disease in 1050 Patients. Sub-Investigator - 2001

RP54274X-321: A Phase III Multi-center, Double Blind, Parallel-Group Placebo Controlled Study of the Effect of Riluzole 50 mg BID or 100 mg BID on the Progression of Parkinson's Disease in Patients Treated With L-DOPA or Dopamine Agonist. Sub-Investigator - 2001

666E-CNS-0075-021: A Phase III, Double-Blind, Placebo-Controlled, Randomized Study Comparing the Efficacy, Safety, and Tolerability of Sumanirole Versus Placebo or Ropinirole in Patients with Early Parkinson's Disease. Sub-Investigator - 2002

M/2760/0011: PNU-95666E: Open-Label, Long Term, Flexible Dose Study of Safety, Tolerability and Therapeutic Response in Patients with Parkinson's Disease. Sub-Investigator – 2003

DA2APD-0075-031: A Phase III, Double-blind, Fixed Dose Response Study Comparing the Efficacy and Safely of Sumanirole vs. Placebo in Patients with Early Parkinson's Disease. Sub-Investigator – 2003

1198.100 NS2330: A Fourteen-Week Placebo-Controlled Dose-Response Efficacy and Safety Study of NS 2330 in Early Parkinson's Disease Patients (Study for Poof of Concept in Early Parkinson's Disease of a Triple Reuptake Inhibitor, NS2330 / SCEPTRE). Sub-Investigator - 2006

S308-3-003: A Multi-Center, Randomized, Double-Blind, Parallel-Group Placebo and Pramipexole Controlled Study to Assess Efficacy and Safety of SLV-308 Monotherapy in the Treatment of Patients with Early Stage Parkinson's Disease. Sub-Investigator - 2006

## RESEARCH ACTIVITIES CONTINUED

**Parkinson's Disease *Continued***

S308-3-008: An extension of SLV308, a multicenter, randomized double-blind, parallel-group placebo and pramipexole controlled study to assess efficacy and safety of monotherapy in the treatment of patients with early stage Parkinson's disease. Sub-Investigator - 2007

S187.3.002: A Randomized, Double-Blind, Double-Dummy, Efficacy, Safety and Tolerability Study of Levodopa-Carbidopa Intestinal Gel in Levodopa-Responsive Parkinson's Subjects Receiving Optimized Treatments with Parkinson Medicinal Products, who Continue to Experience Persistent Motor Fluctuations. Sub-Investigator – 2010

S187.3.003: Open-Label, 12-Month Safety and Efficacy Study of Levodopa – Carbidopa Intestinal Gel in Levodopa-Responsive Parkinson's Disease Subjects. Sub-Investigator – 2010

S187.3.004: An Open-Label, 12-Month Safety and Efficacy Study of Levodopa – Carbidopa Intestinal Gel in Levodopa-Responsive Subjects with Advanced Parkinson's Disease and Severe Motor-Fluctuations Despite Optimized Treatment with Available Parkinson's Disease Medications. Sub-Investgator – 2010

S187.3.005: Open-Label Continuation Treatment Study With Levodopa – Carbidopa Intestinal Gel In Subjects With Advanced Parkinson's Disease And Severe Motor-Fluctuation Who Have Exhibited A Persistent And Positive Effect To Treatment in Previous Studies. Sub-Investigator – 2010

Droxidopa NOH306: A Multicenter, Double-Blind, Randomized, Parallel-Group, Placebo-Controlled Study to Assess the Clinical Effect of Droxidopa in the Treatment of Symptomatic Neurogenic Orthostatic Hypotension in Patients with Parkinson's Disease Sub-Investigator – 2010

An open-label, two part, multicenter study to assess the safety and efficacy of levodopa-carbidopa intestinal gel (LCIG) for the treatment of Non-Motor symptoms in subjects with advanced Parkinson's disease (M12-920), Sub-Investigator – 2013

A multicenter, randomized, active-controlled, double-blind, double-dummy, parallel group clinical trial, investigating the efficacy, safety, and tolerability of continuous subcutaneous ND0612 infusion in comparison to oral IR-LD/CD in subjects with Parkinson's disease experiencing motor fluctuations (BouNDless) ND0612-317. Principal Investigator - 2020

**Pain**

BOTOX 144-8051. A multi-center, double-blind, placebo-controlled, parallel, graduated-dose clinical trial of Botox (botulinum toxin type A) purified neurotoxin complex for the treatment of chronic low back muscle spasm. Sub-Investigator - 1996

49,774-013. Morphine with Dextromethorphan: double-blind crossover comparison of morphine with dextromethorphan and morphine in chronic pain. Sub-Investigator – 1997

A1A20004. A Multi-center, Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study to Evaluate the Efficacy and Tolerability of a 14 Day Treatment Course of GW493838 50mg Compared to Placebo in Subjects with Peripheral Neuropathic Pain. Sub-Investigator - 2002

## RESEARCH ACTIVITIES CONTINUED

**Sroke**

GAIN-America- Protocol GLYA3002. An International, Multi-Center, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Assess over 3 Months the Safety, Efficacy and Pharmacoeconomics of an 800mg Loading Dose and Five 200mg Maintenance Doses of GV150526 in the Treatment of Patients with a Clinical Diagnosis of Acute Stroke. Sub-Investigator -1997

03062k1-200-US. A randomized, double-blind, placebo-controlled parallel group multicenter trial of Fiblast®. October 1997

SA-CMZ-009. The Clomethiazole Acute Stroke Study in Ischemic Stroke (CLASS-I): A double blind, parallel group, multinational, multicenter study of the efficacy and safety of i.v. Clomethiazole compared to placebo in patients with acute ischemic stroke. Sub-Investigator – 1998

SA-CMZ-0010. The Clomethiazole Acute Stroke Study in acute intracerebral hemorrhage (CLASS-H): A double blind, parallel group, multinational, multicenter study of safety of i.v. Clomethiazole compared to placebo in patients with acute intracerebral hemorrhage. Sub-Investigator -1998

SA-CMZ-0011: The Clomethiazole Acute Stroke Study in t-PA Treated Ischemic Stroke (CLASS-T): A double blind, parallel group, multinational, multicenter study of safety of i.v. Clomethiazole compared to placebo in patients treated with t-PA (tissue plasminogen activator) for acute ischemic stroke. Sub-Investigator – 1998

YM872: A Randomized, Double-Blind, Placebo-Controlled, Sequential Dose-Escalation Study to Evaluate the Safety of YM872 in Patients with Acute Ischemic Stroke. Sub-Investigator- 1998

EFC7331 - **MATCH** – **M**anagement of **At**herthrombosis with **C**lopidogrel in **H**igh-Risk Patients with Recent Transient Ischemic Attack or Ischemic Stroke: A Randomized, Double-Blind Study, with 18 months of Follow-up. Sub Investigator – 2001

CHARISMA EFC4505: Clopidogrel for High Atherothrombotic Risk and Ischemic Stabilization, Management and Avoidance (CHARISMA). Sub-Investigator - 2002

BOTOX vs. ZANAFLEX: Placebo Controlled Trial of BOTOX ® versus Zanaflex ® for the Treatment of Subjects with Post- Stroke Upper Limb Spasticity. Principal Investigator – March 2003

100282 Bayer Study: A Randomized, Double-Blind, Placebo-Controlled Trial to Evaluate the Efficacy, Safety, Tolerability, and Pharmacolkinetic/Pharmacodynamic Effects of a Targeted Exposure of Intravenous Repinotan in Patients with Acute Ischemic Stroke. Sub-Investigator - 2003

9.159: PRoFESS – Prevention Regimen for effectively avoiding Second Strokes: A double-blind, active and placebo controlled study of Aggrenox vs. clopidogrel, with and without Micardis. – Sub Investigator – 2004

SA-NXY-0007: A Double-Blind, Randomized, Placebo Controlled, Parallel Group, Multicenter, Phase IIb/III Study to Assess the Efficacy and Safety of Intravenous NXY-059 in Acute Ischemic Stroke. Sub Investigator – 2004

## RESEARCH ACTIVITIES CONTINUED

**Stroke *Continued***

Ptcl-01213 Entitled: A Randomized, Double-blind, Placebo-controlled, Multicenter, Parallel study to evaluate the effects of DP-b99 on Neurologic Function and Disability in subjects with Acute Ischemic Hemispheric Stroke. Sub-Investigator - 2004

F7ICH-1641: A Randomized, Double-Blind, Placebo Controlled, Multi-Centre, Parallel Groups Confirmatory Efficacy and Safety Trial of Activated Recombinant Factor VII (NovoSeven®/Niastase® in Acute Intracerebral Hemorrhage. Sub-Investigator - 2005

NTI-ASP-0502: A Randomized, Double-Blind, Placebo Controlled Study of Ancrod (Viprinex) in Subjects Beginning Treatment within 6 Hours of the Onset of Acute Ischemic Stroke. Sub-Investigator – 2006

CD-0125: Safety and Efficacy of NeuroFlo Technology in Ischemic Stroke. Sub-Investigator - 2006

NTS-INT06-007: A Double-Blind, Randomized, Controlled, Parallel Group, Multi-Center, Pivotal Study to Assess the Safety and Effectiveness of the Treatment of Acute Ischemic Stroke with the NeuroThera® Laser System within 24 Hours from Stroke Onset. Sub-Investigator - 2007

A Multicenter, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Safety and Efficacy of SCH530348 in Addition to Standard of Care in Subjects with a History of Atherosclerotic Disease: Thrombin Receptor Antagonist in Secondary Prevention of Atherothrombotic Ischemic Events (TRA 2°P - TIMI 50) P04737-3694. Sub-Investigator - 2007

A Multicenter, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Safety and Efficacy of SCH530348 in Addition to Standard of Care in Subjects with a History of Atherosclerotic Disease: Thrombin Receptor Antagonist in Secondary Prevention of Atherothrombotic Ischemic Events (TRA 2°P - TIMI 50) P04737-3694. Sub-Investigator - 2007

P04737: A multicenter, Randomized, Double-Blind, Placebo Controlled Study to Evaluate the Safety and Efficacy of SCH 530348 in Addition to Standard of Care in Subjects with a history of Atherosclerotic Disease: Thrombin Receptor Antagonist in Secondary Prevention of Atherothrombotic Ischemic Events. Sub-Investigator - 2008

NTS-INT08-009: A double-blind, randomized, sham-controlled, parallel group, multicenter, pivotal study to assess the safety and efficacy of transcranial laser therapy with the NeuroThera® Laser System for the treatment of acute ischemic stroke within 24 hours of stroke onset. Sub-Investigator – 2010

01373: A double blind, randomized, placebo-controlled, parallel group, multicenter Phase 3 pivotal study to assess the safety and efficacy of 1mg/kg/day intravenous DP-b99 over 4 consecutive days versus placebo when initiated within nine hours of acute ischemic stroke onset. – 2010

A Randomized, Double-Blind, Multinational Study to Prevent Major vascular Events with Ticagrelor Compared to Aspirin (ASA) in Patients with Acute Ischemic Stroke or TIA [SOCRATES –Acute Stroke Or Transient Ischemic Attack Treated with Aspirin or Ticagrelor and Patient Outcomes. Principal Investigator – 2015

## RESEARCH ACTIVITIES CONTINUED

**Stroke *Continued***

Randomized, double-blind, Evaluation in secondary stroke prevention comparing the efficacy and safety of the oral Thrombin inhibitor dabigatran etexilate (110 mg or 150mg, oral b.i.d.) versus acetylsalicylic acid (100 mg oral q.d.) in patients with Embolic Stroke of Undetermined Source ( RESPECT ESUS). Principal Investigator – 2015

DALF-PS-1016: A double-blind, placebo-controlled, parallel-group study to evaluate the efficacy and safety of two dose strengths of Dalfampridine extended release tablets for treatment of stable walking deficits in Post-Ischemic Stroke ( MILESTONE). Principal Investigator – 2015

DALF-PS-1029: An Extension Study to Evaluate the Long-Term Safety, Tolerability and Efficacy of Dalfampridine Extended-Release Tablets for the Treatment of Chronic Post-Ischemic Stroke Walking Deficits in Subjects Who Participated in the DALF-PS-1016 Study (MILESTONE). Principal Investigator – 2015

SB-STR02: A Double-Blind, Controlled Phase 2B Study of the Safety and Efficacy of Modified Stem Cells (SB623) in Patients with Chronic Motor Deficit from Ischemic Stroke. Principal Investigator – 2015

TF-TF0023-21: A phase 2, Multicenter, Randomized, Double-Blind (Within Dose), Placebo-Controlled, Parallel-Group, Dose-Range Finding Study to Evaluate the Efficacy and Safety of TF0023 Spray Versus Placebo in Functional Improvement of Patients with Ischemic Strokes. Principal Investigator – 2018

**Other**

GAL-COG-3002- An Analysis of Mortality in Subjects who participated in Three Studies of Galantamine in Mild Cognitive Impairment. Sub-Investigator - 2004

101468/205: A 12-Week, Double-Blind, Placebo Controlled, Parallel Group Study to Assess the Efficacy and Safety of Ropinirole XR (Extended Release) in Patients with Restless Legs Syndrome. Sub-Investigator – 2005

E2020-A001-412: A One Year, Multicenter, Randomized, Double-Blind, Placebo-Controlled Evaluation of the Efficacy and Safety of Donepezil Hydrochloride (E2020) in Subjects with Mild Cognitive Impairment. Sub-Investigator – 2005

BTX0805: Safety and Efficacy of Botulinum Neurotoxin Type A in the Treatment of Forward Head Posture with Associated Chronic Tension Type headache using a novel Fixed site Injection Paradigm. Sub-Investigator – 2009

PrecisionMed 4800: A single or multiple visit protocol for collection of DNA/RNA/SERUM/PLASMA/CSF in Amyotrophic Lateral Sclerosis and related disorders. Sub-Investigator – 2012

PrecisionMed: A single or multiple visit protocol for collection of DNA/RNA/SERUM/PLASMA/CSF in probable multiple system atrophy. Sub-Investigator - 2013

## RESEARCH ACTIVITIES CONTINUED

**Other *Continued***

ECU-NMO-301: A randomized, double-blind, placebo-controlled, multi-center trial to evaluate the safety and efficacy of eculizumab in patients with relapsing neuromyelitis optica (NMO). Principal Investigator – 2014

Alexion ECU-NMO-302: A Phase III, Open-Label, Extension Trial of ECU-NMO-301 to Evaluate the Safety and Efficacy of Eculizumab in Patients with Relapsing Neuromyelitis Optica (NMO) Principal Investigator - 2014

TBI-01: A Double-Blind, Controlled Phase 2 Study of the Safety and Efficacy of Modified Stem Cells (SB623) in Patients with Chronic Motor Deficit from Traumatic Brain Injury (TBI) Principal Investigator - 2015

14-004: A six-week, Double-blind, Placebo-controlled, Ramdomized, Withdrawal, Multicenter Study of the Safety and Efficacy of **JZP-110** [(R)-2-amino-3-phenylpropylcarbamate hydrochloride] in the Treatment of Excessive Sleepiness in Subjects with Obstructive Sleep Apnea (OSA). Sub-Investigator – 2016

E2006-G000-304 A multicenter randomized double-blind placebo controlled active comparator parallel group study of the efficacy and safety of Lemborexant in Subjects 55 years and older with Insomnia Disorder. Sub-Investigator - 2016

INSIGHT-AHP: A Study to Characterize the Prevalence of Acute Hepatic Porphyria (AHP) in Patients with Clinical Presentation and History Consistent with AHP. Sub-Investigator - 2018

Protocol 0169: A phase 3, 4-week, multi-center, randomized, double-blind, placebo controlled, parallel-group study of TD-9855 in treating symptomatic neurogenic orthostatic hypotension in subjects with autonomic failure. Sub-Investigator – 2019

Protocol 0170: A phase 3, 24 week, multi-center, double-blind, placebo controlled, randomized withdrawal study of TD-9855 in treating symptomatic neurogenic orthostatic hypotension in subjects with primary autonomic failure. Sub-Investigator – 2019

Protocol 0171: A phase 3, 26 week, open-label, safety and tolerability study of TD-9855 in treating symptomatic neurogenic orthostatic hypotension in subjects with primary autonomic failure. Sub-Investigator – 2019

ARGX-113-1802. A Phase 2 Trial to Investigate the Efficacy, Safety, and Tolerability of Efgartigimod PH20 SC in Adult Patients with Chronic Inflammatory Demyelinating Polyneuropathy (CIDP). Sub-Investigator – 2020

ARGX-113-1902. Open-label Extension of the ARGX-113-1802 Trial to Investigate the Long-term Safety, Tolerability, and Efficacy of Efgartigimod PH20 SC in Patients with Chronic Inflammatory Demyelinating Polyneuropathy (CIDP). Sub-Investigator - 2020

ALXN-1210-NMO-307: A phase 3, external placebo-controlled, open label, multicenter study to evaluate the efficacy and safety of Ravulizumab in adult patients with Neuromyelitis Optica Spectrum Disorder (NMOSD) Principal Investigator - 2020