North County Neurology Associates/
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Gregory Aram Sahagian, M.D.

EDUCATION

Columbia University
School of Engineering and Applied Science, New York City, NY ■ 1991
B.S. in Chemical Engineering

Albert Einstein College of Medicine, Bronx, NY ■ 1995
M.D.

NYU Langone Hospital – Long Island
SUNY School of Medicine, Mineola, NY ■ 1995-1996
Internship, Medical

University of California, San Diego, San Diego, CA ■ 1996-1998
Residency, Neurology

University of California, San Diego, San Diego, CA ■ 1998-1999
Chief Resident, Neurology

University of California, San Diego, San Diego, CA ■ 1999-2000
Fellowship, Neuromuscular Diseases

PROFESSIONAL EXPERIENCES

Chief Scientific Officer, Profound Research ■ 2023 – Present

Neurologist, Private Group Practice, North County Neurology Associates dba The Neurology Center, Carlsbad, CA ■ 2000 – Present

- CEO ■ 2003 - Present
- Lab Medical Director, AANEM Accredited EMG lab with Exemplary Status ■ 2013 - Present

Neurologist, **Principal Investigator/Sub-Investigator,** North County Neurology Associates/The Research Center of Southern California, Carlsbad, CA ■ 2000- Present

- Director of Finance ■ 2015 - Present

Scripps Healthcare

- Medical Director of Neurosciences- systemwide medical director for neurosciences (Neurology, Neurosurgery, Endovascular, PM&R) – 2018- present

Scripps Memorial Hospital Encinitas

- Active Privileges ■ 2000 - Present
- Chief of Neurology ■ 2016 – present
- Peer Review Committee■ 2015-present
- Credentials committee ■ 2016- present

6FEB2024

PROFESSIONAL EXPERIENCES CONT.

Scripps Physician Medical Group
- Board Member ■ 2018- present
- Professional Experiences

Tri-City Medical Center, Oceanside, California,
- Active Privileges ■ 2000 - Present
- Medical Director, Neurology ■ 2016- 2023
- Chief of Neurology ■ 2002 – 2015
- Chairman, Department of Medicine ■ 2003 – 2005

Palomar Healthcare
- Active Privileges ■ 2012 – Present

UC San Diego Health
- Assistant Clinical Professor, Voluntary UCSD Department of Neurosciences■ 2000-Present
- Board Member, Clinically Integrated Network■ 2015- Present
- Outreach Services Director ■ 2016-2018
- UCSD Health Physician Network Quality Committee ■ 2016- 2019

UHS Southern California Medical Education Consortium
- Faculty ACGME Training Program ■ 2019- Present

Rady's Children Hospital
- Muscular Dystrophy Association Clinic ■ 2000- 2010

Myasthenia Gravis Foundation of California
- Medical Advisory Board Member ■ 2013-Present

Intraneuron, LLC
- Co-founder 2013 - present
- Neuroscience focused software development
- Voice-recognition cognitive screening software

LICENSURE

- California Medical License Number – A62263

CERTIFICATIONS

- American Board of Psychiatry and Neurology- Neurology■ 2001 ■ Re-Certified 2011
- American Board of Psychiatry and Neurology- Neuromuscular Medicine ■ 2012
- American Board of Electrodiagnostic Medicine ■ 2002 ■ Re-Certified 2011
- The Joint Commission Accredited with National Quality Approval ■ Gold Seal of Approval
- AANEM Accredited EMG lab with Exemplary Status ■ Lab Medical Director 2013-Present

6FEB2024

AWARDS

- Top Doctor Award
- San Diego ■ 2007 ■2013 ■ 2014 ■ 2015 ■ 2016 ■ 2017■ 2021■ 2023
- Golden Neuron award for most outstanding Neurology Resident, University of California, San Diego ■ 1999

PROFESSIONAL SOCIETIES

- American Academy of Neurology
- American Association of Neuromuscular and Electrodiagnostic Medicine
- California State Liaison 2008- present
- Association of California Neurologists
- Young Physician Section representative to the CMA ■ 2005-2009
- California Medical Association
- Young Physician Section Delegate to the AMA ■ 2005-2009
- San Diego Neurologic Society
- Program Chairman ■ 2001-2004
- San Diego County Medical Society
- American Medical Association

HOSPITAL AFFILIATIONS

- **Tri-City Medical Center**, Oceanside, California, Active Privileges ■ 2000 - Present
- **Scripps Memorial Hospital**, Encinitas, California, Active Privileges ■ 2000 – Present
- **Scripps Memorial Hospital,** La Jolla, California, Affiliate Privileges ■ 2015 – Present
- **Scripps Mercy Hospital**, Chula Vista, California, Provisional Privileges ■ 07/2022 – Present
- **Palomar Medical Center,** Escondido, California, Active Privileges ■ 2012 – Present
- **Pomerado Medical Center,** Poway, California, Active Privileges ■ 2012 – Present
- **Rady Children's Hospital,** San Diego, CA, Affiliate Privileges ■ Current

PUBLICATIONS

- Richard J Nowak, Ari Breiner, Vera Bril, Jeffrey A Allen, Shaida Khan, Todd Levine, Daniel H Jacobs, **Gregory Sahagian**, Zaeem A Siddiqi, Jing Xu, William L Macias, Michael Benatar, ASCEND MG Study Group, Annals of Clinical and Translational Neurology 2024-01-01; Subcutaneous batoclimab in generalized myasthenia gravis: Results from a Phase 2a trial with an open-label extension

- Volkan Granit, Michael Benatar, Tahseen Mozaffar, Nizar Chahin, James F. Howard Jr, Adam D. Slansky, Marc H Feinberg, **Gregory Sahagian**, Tuan Vu, Denise Pereira, Julie Steele, Maria Elena Paredes, Cara Benjamin, Krishna Komanduri, Ali Aamer Habib, Julia Kimberly Fong, Luis De La Cruz, Diana Dimitrova, Manisha Chopra, Kelly Holley, Gabrielle

6FEB2024

DeMaria, April Tenorio, Naraly Requena, Beverly Mackanzie Brooks, Niraja Suresh, Jessica Farias, Milos D Milijkovic, Metin Kurtoglu, Minhtran Ngo Casi, Adam Chowdhury, Hafsa Kamboh, C Andrew Stewart, Mehmet Tosun, Yufei Shan, Shaji Daniel, Matthew T. Duvernay, Maria Kireeva, Emily English, Christopher M. Jewell, Michael S Singer, Murat V Kalayoglu. The Lancet. Neurology 2023-07-01; Safety and clinical activity of autologous RNA chimeric antigen receptor T-cell therapy in myasthenia gravis (MG-001): a prospective, multicentre, open – label, non – randomized phase 1b/2a study.

- The Lancet, Neurology 2021-07-01; Safety, efficacy, and tolerability of efgartigimod in parents with generalized myasthenia gravis (ADAPT): a multicentre, randomized, placebo-controlled phase 3 trial.

- Lindsay Olson-Mack, Jessica Burley, Robin Calara, Robert Claycomb, Linda Couts, Mary A Kalafut, K. Jill Libby, Renee Richetts, **Gregory Sahagian**, Jean M Rockwell, Scripps Health, San Diego, CA Who Are We Missing? False Call Rates Decline for Stroke Code Activations During Early Phase of Covid-19 Pandemic Abstract poster ISC meeting 2021

- The Lancet, Neurology 2021-07-01; Safety, efficacy, and tolerability of efgartigimod in parents with generalized myasthenia gravis (ADAPT): a multicentre, randomized, placebo-controlled phase 3 trial.

- Phillips G, Muppidi S, **Sahagian G**, Smith G, Huang, D, Campbell D; Conceptualization and Novel Budget Impact Analysis Framework for Treatments of Myasthenia Gravis. Abstract ISPOR 2021

- Smith N, Howard J, **Sahagian G**, Smith G, Silvestri NJ, Hehir M, Leighton T, Jeyakumar S, Phillips GA; Comparative Effectiveness and Safety of Efgartigimod in Generalized Myasthenia Gravis Abstract ISPOR 2021

- Wagner, G., Rosen, J., Vignisson, V., **Sahagian, G.,** Haase-Alasantro, L;.A pilot study investigating a voice recognition cognitive screening tool for detection of neuropsychological changes; Abstract AAIC 2021

- Wagner, G., Rosen, J., Holguin, G., Frishberg, B., Wang, A., **Sahagian, G.,** Haase-Alasantro, L. (2016). Clinical Assessment of Posterior Cortical Atrophy. Poster presented at the National Academy of Neuropsychology Conference, Seattle, WA.

- Salloway S, Sperling R, Fox NC, Blennow K, Klunk W, Raskind M, Sabbagh M, Honig LS, Porsteinsson AP, Ferris S, Reichert M, Ketter N, Nejadnik B, Guenzler V, Miloslavsky M, Wang D, Lu Y, Lull J, Tudor IC, Liu E, Grundman M, Yuen E, Black R, Brashear HR; Bapineuzumab 301 and 302 Clinical Trial Investigators. Two phase 3 trials of bapineuzumab in mild-to-moderate Alzheimer's disease. N Engl J Med. 2014 Jan 23;370(4):322-33

- Liu E, Schmidt ME, Margolin R, Sperling R, Koeppe R, Mason NS, Klunk WE, Mathis CA, Salloway S, Fox NC, Hill DL, Les AS, Collins P, Gregg KM, Di J, Lu Y, Tudor IC, Wyman BT, Booth K, Broome S, Yuen E, Grundman M, Brashear HR; Bapineuzumab 301 and 302 Clinical Trial Investigators. Amyloid-β 11C-PiB-PET imaging results from 2 randomized bapineuzumab phase 3 AD trials Neurology. 2015 Aug 25;85(8):692-700

- Morello CM, Leckband SG, Stoner CP, Moorhouse DF, **Sahagian GA:** Randomized double-blind study comparing the efficacy of gabapentin with amitriptyline on diabetic peripheral neuropathy pain. Arch Intern Med 1999 Sep 13; 159(16): 1931-7

6FEB2024

Neuromuscular

"Epidermal Nerve Fiber Analysis in Amyotrophic Lateral Sclerosis", Principal Investigator, 2009-2015

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

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. Sub-Investigator, 2017-2018

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). Principal 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). Principal 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. Principal Investigator – 2020

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. Principal 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. Principal Investigator – 2020

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 – 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 – 2021

Synuclein-One Study: A Phase 3, Multi-center, Randomized, Quadruple-blind, Placebo-controlled Study to Assess the Efficacy and Safety of Batoclimab as Induction and Maintenance Therapy in Adult Participants with Generalized Myasthenia Gravis (gMG) IMVT-1401-3101, IND: 141885. Principle Investigator-2021

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 - 2022

MG-001. Autologous T-Cells Expressing a Chimeric Antigen Receptor Directed To B-Cell Maturation Antigen (BCMA) in Patients with Generalized Myasthenia Gravis – 2022

6FEB2024

Neuromuscular Continued

NMD670-02-0002: A Phase 2b, Randomised, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy, Safety, and Tolerability of 3 Dose Levels of NMD670 over 21 Days in Adult Patients with AChR/MuSK-Ab+ Myasthenia Gravis. Sub Investigator - 2023

Alzheimer's Disease

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 Ragasiline 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, 2005

VP-AD-301 "A Double-Blind Placebo-Controlled Study of VP4896 for the Treatment of Mild to Moderate Alzheimer's Disease." Sub-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 Trial of Bapineuzumab (AA-001, ELN115727 in Patients with Mild to Moderate Alzheimer's Disease who are Apo lipoprotein Eε4 Non-Carriers (301) or Non-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

14862A "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

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

JIG-MC-LAKC. Assessment of safety and efficacy measured by amyloid reduction of LY3372993 in early symptomatic AD. Sub-Investigator – 2022

ACU193-201: A Phase 2/3 Double-Blind, Randomized, Placebo-Controlled Adaptive Design Trial to Evaluate the Efficacy and Safety of Intravenous ACU193 in Early Alzheimer's Disease. Sub Investigator – 2023

6FEB2024

Epilepsy

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

Migraine

191622-037-00 “A multicenter, double-blind, randomized, placebo-controlled, parallel group study of BOTOX® (Botulinum Toxin Type A) purified neurotoxin complex for the prophylactic treatment of migraine headaches in the episodic migraine population.” Sub-Investigator, 2001

191622-038-01 “A multicenter, double-blind, 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, 2001

CAPSS-155 “A comparison of the efficacy and safety of TOPAMAX® (Topiramate) tablets versus placebo for the prophylaxis of migraine.” Sub-Investigator, 2001

MT 100-308 “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® None 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, 2003

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, 2003

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 Multicenter, 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, October 2002

MT300-401 “A Multicenter Randomized, Single-Blind, Evaluation of Three Injectable Anti-Migraine Drugs.” Sub-Investigator, February 2003

3420AG1 – “Program to Assess Treatment Strategies: A Botox Observational Program.” – Sub Investigator, 2003

6FEB2024

Migraine continued

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

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

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." Sub-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." Sub-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."Sub-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 menstrually 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." Sub-Investigator, 2005

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, 2005

"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

191622-079/080 "A Multicenter Study Evaluating the Efficacy and Safety of Botox Purified Neurotoxin complex as Headache Prophylaxis in Migraine Patients with 15 or More headache Days per 4-Week Period in a 24 week, Double-Blind, Randomized, Placebo Controlled, Parallel-Group Phase Followed by a 32 Week Open-Label Phase." Sub-Investigator 2006

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." 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 Preemptive Treatment of the Aura Phase of Migraine Headache." Sub-Investigator, 2007

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

6FEB2024

Migraine continued

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.” Sub-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 Site Injection Paradigm.” Sub-investigator, 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” – 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” - 2010

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. 2012

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, 2018

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

M22-418: A Phase 3 Multicenter 24-Week Open-Label Study to Evaluate the Safety, Tolerability, and Efficacy of Atogepant When Added to OnabotulinumtoxinA (BOTOX) for the Preventive Treatment of Chronic Migraine. Sub-Investigator – 2022

Multiple Sclerosis

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, 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.” – 2006

6FEB2024

Multiple Sclerosis continued

CFTY720D2302 “A 12-Month Double-Blind, Randomized, Multi-Centre, 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”. Principal 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.” Sub-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.” Sub-investigator, 2008

DRI10566: “A 14-Week, Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study to Evaluate the Efficacy, Safety, and Tolerability of Nerispirdine 50 mg, 100 mg, and 200 mg in Patients with Multiple Sclerosis.” Sub-Investigator, 2009

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.” Sub-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.” Sub-Investigator, 2009

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

101MS325 “A Multicenter, Randomized, Rater-Blind, Parallel-Group, Active Controlled Study to Evaluate the Benefits of Switching Therapy (Glatiramer Acetate or Interferon β 1a) to Natalizumab in Subjects with Relapsing Remitting Multiple Sclerosis.” Sub-investigator, 2010

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).” Sub-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.” Sub-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.” Sub-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.” Sub-Investigator, 2012

6FEB2024

Multiple Sclerosis continued

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." Sub-Investigator, 2012

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." Sub-investigator, 2012

CFTY20D2399: "A Single arm, open-label, multi-center study evaluating the long-term safety and toleratbility of 0.5mg fingolimod (FTY720) administered orally once daily in patients with relapsing forms of multiple sclerosis." Sub-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." Sub-Investigator 2014

Biogen Idec 109MS413A 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 patient's Sub-investigator 2015

Actelion AC-058B301 "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." Sub-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. Sub-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. Sub-investigator 2017

TG1101-RMS301 Phase III: UbLiTuximab In Mutliple Sclerosis Treatment Effects (ULTIMATE I Study). Sub-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. Sub-Investigator 2018

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

ABBVIE M18-918 – MS Safety and Efficacy study of Elezanumab (ABT-555) in Relapsing Forms of MS. Sub-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. Sub-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. Sub-Investigator- 2020

6FEB2024

Multiple Sclerosis continued

EFC17504: A randomized, double-blind, Phase 3 study comparing efficacy and safety of frexalimab (SAR441344) to placebo in adult participants with nonrelapsing secondary progressive multiple sclerosis. Sub Investigator – 2023

EFC17919: Master protocol of two independent, randomized, double-blind, Phase 3 studies comparing efficacy and safety of frexalimab (SAR441344) to teriflunomide in adult participants with relapsing forms of multiple sclerosis. Sub Investigator – 2023

Parkinson's Disease

RP 54274X-321 "A phase III multicenter, 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, 1999-2001

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, 2002-2003

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 Proof of Concept in Early Parkinson's Disease of a Triple Reuptake Inhibitor, NS2330 / SCEPTRE)" Sub-Investigator, 2006

S308-3-003 "A Multi-Centre, Randomized, Double-Blind, Parallel-Group Placebo and Pramipexole Controlled Study to Assess Efficacy and Safety of SLV308 Monotherapy in the Treatment of Patients with Early Stage Parkinson's Disease". Sub-Investigator, 2006

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

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

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-Investigator, 2010

6FEB2024

Parkinson's Disease continued

S187.3.005 "Open-Label Contiuation 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

M12-920 "An Open-Label, Two Part, Multi-Center 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." 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 fluctuateons (BouNDless) ND0612-317. Sub-Investigator – 2020

Stroke

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

NF 198,003 "A double-blind, placebo-controlled, dose-ranging study of Nefiracetam in patients with Post-Stroke Depression." Sub-Investigator, 2001

EFC7331 MATCH – "Management of Atherthrombosis with Clopidogrel in High-Risk Patients with Recent Transient Ischemic Attack or Ischemic Stroke: A Randomized, Double-Blind Study, with 18 months of Follow-up." Principal Investigator, 2001-2002
CHARISMA EFC4505 "Clopidogrel for High Atherothrombotic Risk and Ischemic Stabilization, Management and Avoidance (CHARISMA)." Sub-Investigator, 2002

981-124 "A Double-Blind, Randomized, Placebo-Controlled Study of Atorvastatin as Prevention of Cerebrovascular Events in Patients With a Previous Transient Ischemic Attack (TIA) or Stroke" Sub-Investigator, 2002

Botox vs. Zanaflex "Placebo Controlled Trial of BOTOX ® versus Zanaflex ® for the Treatment of Subjects with Post- Stroke Upper limb Spasticity." Sub-Investigator, 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

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

6FEB2024

Stroke continued

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-Centre, 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

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

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." Sub–Investigator, 2010

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

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)." Sub–Investigator, 2015-2017

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)." Sub–Investigator, 2015-2018

Abbvie M23-499 "A Randomized, Double-blind, Placebo-controlled Study to Evaluate Safety, Efficacy, and Tolerability of ABBV-950 for the Treatment of Upper Limb Spasticity in Adult Post-Stroke Patients." Principal Investigator-2024

6FEB2024

Other

VA Cooperative Study 485 – National Health Survey of Gulf War Era Veterans and Their Families Clinical investigator for the neurologic aspect of the study (i.e. NCS and neurologic exams), 1997-2000

E2020-A001-209 "A 12-week, multicenter, randomized, double-blind, placebo-controlled, preliminary study to determine the efficacy and safety of Donepezil Hydrochloride (E2020) in patients with persistent mild to moderate memory impairment resulting from a single Closed Head Injury." Sub-Investigator, 2001

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

A1481066 – "A Multi-Center, Double-Blind, Placebo-Controlled Flexible Dose Study to Evaluate the Efficacy and Safety of Viagra ® in Women Who Have Female Sexual Arousal Disorder Resulting from a Traumatic Spinal Cord Injury." Sub-Investigator, 2003

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

"A Randomized, Double-blind, Placebo Controlled Multi-Center Study to Evaluate the 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

Alexion 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) Sub-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)" Sub-Investigator 2014

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, 2016-2017

INSIGHT-AHP: A Study to Characterize the Prevalence of Acute Hepatic Porphyria (AHP) in Patients with Clinical Presentation and History Consistent with AHP. Principal Investigator 2018-2019

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) Sub-Investigator – 2020

6FEB2024

Other continued

KER2023.3 IMPACT: Investigating Mild cognitive impairment in Patients And Controls with TD-fNIRS Sub Investigator- 2023

IMVT-1401-2401: A Phase 2b, Multi-center, Randomized, Quadruple-blind, Placebocontrolled Study of Batoclimab Treatment in Adult Participants with Active Chronic Inflammatory Demyelinating Polyneuropathy (CIDP). Principal Investigator-2023

IMVT-1401-3201: A Phase 3, Multi-center, Randomized, Quadruple-masked, Placebo-controlled Study of Batoclimab for the Treatment of Participants with Active Thyroid Eye Disease (TED). Principal Investigator-2023

R0000-CV-CES-2216: Prospective Assessment of Hemodynamics, Symptomatology, and Biochemical Markers of NPR1 Signaling in Patients with Postural Orthostatic Tachycardia Syndrome (POTS) and in Patients with Neurogenic Orthostatic Hypotension (nOH). Principal Investigator-2023

APC-APN-305: Phase 3 randomized double-blind placebo-controlled 6-month parallel-arm study to compare a fixed dose combination of Aroxybutynin/Atomoxetine (AD109) to placebo in obstructive sleep apnea.. Sub Investigator - 2023

6FEB2024