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Jack David Schim, M.D.

EDUCATION

University of Miami, Miami, FL ■ 1969 - 1973
B.A. in Psychology, Philosophy, Fine Arts, *Cum Laude*

University of Miami, Miami, FL ■ 1973 - 1975
M.F.A

University of California, San Diego, CA ■ 1977 - 1981
M.D.

National Hospital for Neurologic Disorders, Queen Square, London ■ 1981
Extern, Neurology

Cedars Sinai, Los Angeles, CA ■ 1981-1982
Internship, Medical

University of California, San Diego, CA ■ 1982-1985
Residency, Neurology

University of California, San Diego, CA ■ 1985
Chief Resident, Neurology

LICENSURE

California Medical License Number - G48807

CERTIFICATIONS

- National Board of Medical Examiners ■ 1982
- Diplomate, American Board of Psychiatry and Neurology ■ 1987
- American Society for Neuroimaging
  - Neurosonology ■ 1987
  - *MRI* ■ 1987
- American Society for Neurorehabilitation ■ 1992
- Industrial Medical Council ■ 1993
- Headache Medicine Specialty Certification ■ 2006
-

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AWARDS

- National Merit Scholar ■ 1969
- National Psychology Honor Society ■ 1973
- Phi Kappa Phi ■ 1975
- Golden Diaper Award" (excellence in Pediatric Neurology) ■ 1984

TEACHING EXPERIENCE

Voluntary Assistant Clinical Professor of Neurology
University of California, San Diego ■ 1985 – Present

Teaching
Veterans Hospital, La Jolla, California ■ 1986 – Present

RELATED EXPERIENCE

Neurologist, Private Group Practice, North County Neurology Associates dba The Neurology Center, Encinitas & Oceanside, CA ■ 1985 – Present

Neurologist, Research Center, The Research Center of Southern California, LLC.
Encinitas & Oceanside, CA ■ 2007 – Present

Staff Neurologist: Critical Care Neurology, Emergency Care, Neurology, Clinical Consultation, Electrodiagnostic Studies, Rehabilitation Neurology ■ 1985 – Present

Scripps Memorial Hospital, Encinitas

Scripps Memorial Hospital, La Jolla

Tri-City Medical Center, Oceanside

HOSPITAL AFFILIATIONS

- **Tri-City Medical Center**, Vista, California, Active Privileges ■ 1985 – Present
  - Chief of Neuroscience Division ■ 1995-1997
- **Scripps Memorial Hospital**, Encinitas, California, Active Privileges ■ 1985 – Present
  - Chief of Neurology Division ■ 1992-1994, 2000 - Present
- **Scripps Memorial Hospital**, La Jolla, California, Active Privileges ■ 1985 – Present
  - Chief of Neurology Division ■ 1997-2000
- **UCSD**, La Jolla, California, Asst. Clinical Prof. ■ 1986 – Present
- **VA Medical Center**, San Diego, California, Active Privileges ■ 1986 – Present

PROFESSIONAL MEMBERSHIPS

- **Medical Director, Tri-City Medical Center Stroke Program** ■ 2005 - Present
- **Member**, American Academy of Neurology ■ 1983 – Present

PROFESSIONAL MEMBERSHIPS *CONTINUED*

- **Member**, San Diego Neurologic Society ■ 1981 – Present
  - ***President*** ■ 1992 – 1995
  - ***Secretary/Treasurer*** ■ 1990 – 1992
- **Neurology Advisor**, California Medical Society ■ 1992 – 1995
- **Neurology Advisor**, Blue Shield/Medicare Carrier Advisory Committee ■ 1996 – Present
- **Board Member**, Association of California Neurologists ■ 1997 – Present
  - ***Secretary/Treasurer*** ■ 2000 – 2002
  - ***President*** ■ 2003- 2006
- **Chairperson**, San Diego Metro Stroke Task Force ■ 1999 – 2004
- **President**, American Heart Association San Diego ■ 2002 – 2004
- **President**, San Diego Stroke Council ■ 1998 – 2004
- **Member,** American Society of Neurorehabilitation ■ 1998 – Present
- **Member,** American Association of Electrodiagnostic Medicine ■ 1990 – Present
- **Member,** American Society of Neuroimaging ■ 1987 – Present

PRESENTATIONS

EMR – A Great Tool for your Practice. American Academy of Neurology. April 4 2005, May 3 2006, May 4 2007

Stroke Prevention Issues in Women: Women's Healthcare Forum: Anaheim:, March 15, 2007, Chicago, April 20, 2007, Houston, May 18, 2007, Baltimore, Jun 15, 2007

Treatment of Alzheimer's Disease. Women's Healthcare Forum: Anaheim:, March 15, 2007, Chicago, April 20, 2007, Houston, May 18, 2007, Baltimore, Jun 15, 2007

Stroke Update 2006 U.S. Psychiatric & Mental Health Congress. New Orleans. October 20 2006

Pearls of the Neurologic Exam. U.S. Psychiatric & Mental Health Congress, New Orleans. October 20 2006

Stroke Update. **Advances in Neurology 2007**: Chicago September 8 2007, New York September 15 2007, New Orleans. October 20 2006.

Stroke Update 2007: U.S. Psychiatric & Mental Health Congress Orlando. October 14, 2007

Pearls of the Neurologic Exam U.S. Psychiatric & Mental Health Congress Orlando October 14, 2007

Botulinum Toxin Type A Compared With Divalproex, A 3 Month Open Label Comparison Study, *Oral Presentation,* European Neurologic Society, Lausanne, Switzerland. May 30, 2006.

Botulinum toxin for Dystonia - Skills Workshop. American Academy of Neurology: May 7, 2006

PUBLICATIONS AND PAPERS

Andrew M Blumenfeld, M.D.; **Jack D Schim, M.D**.; Thomas J Chippendale, M.D. "Botulinum Toxin Type A and Divalproex Sodium for Prophylactic Treatment of Episodic or Chronic Migraine." *HEADACHE The Journal of Head and Face Pain*, Vol. 48 No 2, 210-220, February 2008

Overview of Pain Management. Jack D. Schim, MD; Paul Stang, PhD. Pain Practice Volume 4 Page S4 - March 2004

Effect of preventive treatment with botulinum toxin type A on acute headache medication usage in migraine patients. Jack Schim. Current Medical Research and Opinion. 20(1), 2004, 49–53

The Clomethiazole Acute Stroke Study in tissue-type plasminogen activator-treated stroke (CLASS-T): final results. Lyden P, Jacoby M, Schim J, Albers G, Neurology. 2001 Oct 9; 57(7):1199-205.

"Use of anti-ICAM-1 therapy in ischemic stroke: results of the Enlimomab Acute Stroke Trial." Enlimomab Acute Stroke Trial Investigators. Neurology 2001 October 23; 57(8): 1428-34

Collaborating Clinical Center, North County Neurology Associates, Oceanside: T Chippendale, M Lobatz, E Diamond, **J Schim**, M Sadoff. "Intravenous Ancrod for treatment of acute ischemic stroke: the STAT study: a randomized controlled trial. Stroke Treatment with Ancrod Trial." JAMA 2000 May 10; 283(18):2395-40

Participating Clinical Center, Tri-City Medical Center, T. Chippendale, E. Diamond, M. Lobatz, D. Murphy, D. Rosenberg, T. Ruel, M. Sadoff, **J. Schim**, J. Schleimer. "Tissue Plasminogen Activator for Acute Ischemic Stroke," The New England Journal of Medicine, Vole 333 No 24, 1581-1587, December 14, 1995.

Collaborating Clinical Center, North County Neurology Associates, Oceanside: T Chippendale, M Lobatz, E Diamond, **J Schim**, M Sadoff. "A randomized, blinded, trial of clopidogrel versus aspirin in patients at risk of ischemic events (CAPRIE)", CAPRIE Steering Committee. Published in The Lancet Vol. 348 No 9038, 1329-1339, November 16, 1996.

"Increased sub-cortical and Laminar Cortical 2 Deoxy (14C) Glucose Utilization during Cerebellar Stimulation," **Jack D. Schim**, Patrick Lyden, and Frank Sharp; Experimental Neurology, 74, 449-518; 1981

RESEARCH ACTIVITIES

Principal Investigator

Alzheimer's Disease

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." 2006

D97-019 "Metrifonate investigational nationwide trial (M.I.N.T)." 1997

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Principal Investigator Continued

Migraine

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®." 2006

191622-079 "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." 2006

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." 2005

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." 2003

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) 1997

Multiple Sclerosis

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

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." 2007

Parkinson's Disease

"A/SEL/97/026, A randomized, double-blind, parallel-group study to compare the safety and efficacy of Zydis Selegiline 1.25 to 2.5 mg Q.D. with placebo as an adjunct in the management of Parkinsonian patients being treated with Levodopa who exhibit deterioration in the quality of their response to this therapy." 1998-2003

Stroke

Study Ptcl-01373 entitled: 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

CD-0125 "Safety and Efficacy of NeuroFlo Technology in Ischemic Stroke." 2006

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." 2006

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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." 2005

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." 2004 – 2006

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." 2004

SA-NXY-0012- (CHANT) "A Double-Blind, Randomized, Placebo Controlled, Parallel Group, Multicenter, Phase IIb Study to Assess The Safety And Tolerability Of 72 Hours Intravenous Infusion of NXY-059 In Adult Patients with Inter-cerebral Hemorrhage (ICH)." 2004

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." 2004

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." 2003

YM872 "A Randomized, Double-Blind, Placebo-Controlled, Sequential Dose-Escalation Study to Evaluate the Safety of YM872 in Patients with Acute Ischemic Stroke." 1998-2003

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." 1998-2000

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." 1998-1999

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." 1998-1999

534.11 "A phase II/III Multicenter, double-blind, placebo-controlled, parallel group study to evaluate the efficacy, safety, tolerability, and pharmacokinetics of intravenous aptiganel hydrochloride in patients with an acute ischemic stroke." (Cerestat) 1996 - 1997

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Stroke *Continued*

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 03062k1-200-US "A randomized, double-blind, placebo-controlled parallel group multicenter trial of Fiblast®." October 1997- 1999

510.1067 "Double-blind, randomized, placebo-controlled parallel-group trial of the efficacy and safety of Enlimomab Anti-Icam-1 compared to placebo administered within 6 hours of the onset of stroke symptoms, for treatment of acute ischemic stroke." 1995-96

Sub-Investigator

Alzheimer's Disease

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." 2010

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" – 2009

ELN115727-301 & 302 "A Phase III, Multicenter, Randomized, Double-Blind, Placebo Controlled, Parallel Group, Efficacy and Safety Trial of Bapineuzumab (AAB-0001, ELN115727 in Patients with Mild to Moderate Alzheimer's Disease who are Apolipoprotein E ε4 Non-Carriers (301) or Carriers (302)" 2008
VP-AD-301 "A Double-Blind Placebo-Controlled Study of VP4896 for the Treatment of Mild to Moderate Alzheimer's Disease". 2006.

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. 2005.

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 probable Alzheimer's disease." 2003

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

970-68-23 "A 16-week randomized, double-blind, placebo-controlled parallel-group, dose-response multicenter 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." 1996

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Alzheimer's Disease *Continued*

970-68-23 Open label extension of "A 16-week randomized, double-blind, placebo-controlled parallel-group, dose-response multicenter 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." 1996 - 1997.

Parke-Davis 979-14 "A 26-week, randomized, double-blind, placebo-controlled, parallel-group, multicenter with a sustained active phase study of Milameline (CI-979/RU 35926) in patients with probable Alzheimer's Disease." 1995 - 1996.

Suloctidil study for Alzheimer's Disease, Monsanto. 1987.

Epilepsy

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

Migraine

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

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

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" - 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

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.

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." 2007

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". 2007

"The Effect of BOTOX® for the Treatment of Epiksodic Migraine Headaches in Patients who Demonstrate Poor Response to Triptans." 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."2006

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Migraine *Continued*

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

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

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

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

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

MT 300-401 “ A Multicenter Randomized, Single-Blind, Evaluation of Three Injectable Anti-Migraine Drugs.” 2003

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

MT 300-302 – “A Randomized-Double-Blind, Placebo Controlled Evaluation of the Safety and Efficacy of MT 300 in the Acute Treatment of Migraine.” 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.” 2003

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Migraine *Continued*

191622-037-01 “A Multicenter, Double-Blind, Randomized, Placebo-Controlled, Parallel Group Study of BOTOX® (Botulinum Toxin Type A) Purified Neurotoxin Complex for the Prophylactic Treatment of Migraine Headaches in the Episodic Migraine Population.” 2003

191622-038 “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.” 2003

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.” 2002

CAPSS-155 “A Comparison of the Efficacy and Safety of TOPAMAX® (Topiramate) Tablets Versus Placebo for the Prophylaxis of Migraine.” 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.” 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.” *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® Nonresponders.” 2001

191622-024-00 “A Multicenter, 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.” 2001

A1601022 “A Multicenter Trial to Evaluate the Efficacy, Tolerability and Subject Satisfaction with Eletriptan in the Treatment of Migraine Headache Attacks in Neurology Practices.” 2001

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.”1997

LY303870 - “Dose Comparison of LY303870 in the Long Term Prophylaxis of Migraine.”1997

311c90 - “A Double Blind, Randomized Comparison of Zolmatriptan and Sumatriptan in the Acute Treatment of Multiple Migraine Headaches.” 1997

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.” 1996

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.” 1996-97

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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.” 1996

SUMA4015 “A randomized, double-blind, placebo-controlled study to evaluate the impact of sumatriptan injection on workplace productivity loss due to migraine” (Imitrex).” 1996 - 1997

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.” 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.”1996-1997

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

S2b-350 “Imitrex (Sumatriptan Succinate) injection, post-marketing surveillance study.” 1995

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.” 1995-96

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.” 1995

S2WA 1007 - “A Study to Evaluate the Pharmacokinetics and Pharmacodynamics of Oral Naratriptan in Migraine Subjects.”1995-1996

M/3275/0008 “Oral Almotriptan (LAS31416) vs. Oral Sumatriptan in a double Blind, Randomized, Parallel Group Study of Cost-Effectiveness and Quality of life in Migraine.” 1988-1999

M/3275/0011 “A long-term open label safety study of Almotriptan 12.5 mg orally in migraine patients.” 1988-1999

Multiple Sclerosis

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.” 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.” 2012

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Multiple Sclerosis *Continued*

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.” 2010

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.” 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).” 2010

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.” 2010

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.” 2009

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

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.” 2007

CFTY720D2302 “A 12-month double-blind, randomized, multicenter, 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 with optional Extension Phase.” 2007

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

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.” 2004

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Multiple Sclerosis *Continued*

CAMMS223 – "A Phase II, Randomized, Open-Label, Three-Arm Study Comparing Low and High Dose CAMPATH (MABCAMPATH) and High Dose Rebif in Patient with Early, Active Relapsing-Remitting Multiple Sclerosis." 2003 – 2004

ICOS Protocol AMS05- "Phase 2 Study of Hu23F2G Multidose in Acute Exacerbation of Multiple Sclerosis." 1998-Present

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

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." 1996-1997

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." 1994-1997

Parkinson's Disease

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." 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." 2010

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

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." 2010

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." 2007

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." 2006

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." 2004

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Parkinson's Disease *Continued*

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)." 2004

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

Z/SEL/97/027 "An Open Extension Study of the Safety and Efficacy of Zydis Selegiline 1.25 to 2.5 mg Q.D. as an Adjunct in the Management of Parkinsonian Patients being treated with Levodopa." 2003

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." 2002

RP54274X-320 "A Phase III Multicenter, 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." 2002

RP54274X-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." 2002

Z/SEL/95/008 EXTENSION – "An open, multicenter 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." September 1997 – November 1998

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

HL18317 "An open, randomized, multicenter 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." 1996

Stroke

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.

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." 2010

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." 2008

Stroke *Continued*

NTS-INT06-007 NeuroThera Effectiveness and Safety Trial – 2 (NEST-2) A double blind, randomized, controlled parallel group, multicenter, 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. 2007

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." 2006.

BOTOX vs ZANAFLEX "Placebo Controlled Trial of BOTOX ® versus Zanaflex ® for the Treatment of Subjects with Post- Stroke Upper Limb Spasticity" – March 2003- 2004

"Schneider (USA) Inc. Carotid Stent Therapy vs. Carotid Endarterectomy."

CHARISMA EFC4505 "Clopidogrel for High Atherothrombotic Risk and Ischemic Stabilization, Management and Avoidance (CHARISMA)." 2002-2003

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." 2003

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" Present

NF 198,003 "A Double-Blind, Placebo-Controlled, Dose-Ranging Study of Nefiracetam in Patients with Post-Stroke Depression." 2000

SB 214857/030 BRAVO "Blockade of the GP IIB/IIIA Receptor to Avoid Vascular Occlusion." 1999

CP101-606 MRI/DIFF/Perf. Stroke "A Double-Blind, Placebo Controlled, Multi-Center Study to Evaluate the Safety and Efficacy of a 72-hour Infusion of CP-101, 606 in Subjects with Acute Ischemic Stroke in the Forebrain, Study #:161-106-5078." 1999

IP302-007 "A placebo-controlled study to determine the effects of 500mg of Citicoline in ischemic stroke patients." 1996 - 1997.

A-120-A "S*T*A*T stroke treatment with Ancrod (Arvin) trial, parallel, group sequential, double-blind, randomized, placebo-controlled study of the safety and efficacy of IV Ancrod (Arvin) given within 3 hours after the onset of acute ischemic stroke." 1993 - 1994.

CAPRIE/P-1633 "Clopidogrel vs. Aspirin in patients at risk of ischemic events" 1993-96.

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." 2009

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Other

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

FHP: "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." 2008

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." 2005

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

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

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 Impairments Resulting From a Single Closed Head Injury." 2003

DVT TRG004-02 & TRG004-03 "Prospective Study of Venous Thromboembolism (VTE) Patient Characteristics, Diagnostic Methods and Treatment Plans in Preparation for a Phase III Study" 2002

191622-013-01 "A Multicenter, Double-Blind, Randomized, Placebo-Controlled, Parallel Group, Clinical Study of the Safety and Efficacy of BOTOX◆ (Botulinum Toxin Type A) Purified Neurotoxin complex Injections into Areas of Focal Tenderness in subjects with Chronic Low Back Pain." 2001

GAL-IV-201-201X "A Multicenter, Double-Blind, Randomized, Placebo-Controlled, Parallel Group, Clinical Study of Galantamine/Chronic Fatigue." 2001

97040B- "A Double Blind Randomized, Placebo Controlled Multicenter Study to Evaluate the Efficacy and Safety of 4 Doses of Intramuscular Phenoxybenzamine Hydrochloride Injection versus Placebo in Chronic Muscle Pain."

3310101018 "A multicenter, double-blind, placebo-controlled, randomized, parallel-group trail of Rufinamide as adjunctive therapy in patients with inadequately controlled primary generalized tonic-clonic seizures." 1997 - 1998

49,774-013 "Morphine with Dextromethorphan: double-blind crossover comparison of morphine with Dextromethorphan and morphine in chronic pain." 1997-1998

NAL0396 – "A multicenter, randomized, double-blind, placebo-controlled, phase IIb study of oral Naloxone for the treatment of opioid-induced constipation in patients with chronic, non-malignant pain." 1997-1999.

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Other *Continued*

K0718g" A phase III, multicenter, double-blind, placebo-controlled, parallel-group study of the efficacy and safety of recombinant human nerve growth factor (rhNGF) in subjects with diabetic neuropathy." May 1997-1998.

BOTOX-145-8051 "A multicenter, 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." 1997

SR 90107A/ORG 31540 "A multicenter, randomized, parallel, double-blind, dose ranging study of subcutaneous SR 90107 A/ORG 31540 with an assessor blind, comparative control group of subcutaneous LMWH in the prevention of deep vein thrombosis after elective total hip replacement." 1997

BOTOX 144-8051 "A multicenter, 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." 1996-97.

M92-813 "Tiagabine HCl administration in patients with epilepsy." 1995 - 1996.

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