Tuberous Sclerosis Alliance

TSC ALERT

Edited by Vicky H Whittemore, PhD

June 2006

Welcome to the June 2006 edition of *TSC Alert* – an online research newsletter for individuals interested in Tuberous Sclerosis Complex (TSC) research and clinical care. This online newsletter contains information of interest to the TSC research and health care community. Please forward this newsletter to colleagues who are interested in TSC. To be added/deleted to/from the mailing list for *TSC Alert* and/or to submit information for the July 2006 *TSC Alert* contact: vwhittemore@tsalliance.org

Table of Contents

[Clicking on one of the headings takes you directly to that section of TSC Alert]

FUNDING OPPORTUNITIES

Tuberous Sclerosis Alliance RFPs
Letter of Intent Deadline: August 1, 2006 (LOI required)
Grant Application Deadline: November 1, 2006
The Tuberous Sclerosis Alliance announces the availability of awards for the following grant mechanisms:

- Predoctoral Awards
- Postdoctoral Awards
- Junior Investigator Awards
- Senior Investigator Awards
- Clinical Trial Development Awards
- Pilot Clinical Trial Awards
- Conference Awards

Additional information on the RFPs and LOI forms are available on the TS Alliance Web site at: http://www.tsalliance.org

CURE Annual Awards
Application Deadline: June 16, 2006
CURE seeks novel research projects that will address the goals of "no seizures/no side effects." This program awards seed grants to researchers submitting innovative proposals that will provide new directions for epilepsy therapy, prevention and, ultimately, a cure. We specifically encourage studies that may not be currently fundable by other agencies, such as the NIH, because of their preliminary or unconventional nature. Special consideration will also be given to early career investigators who have completed training within the last two years. The maximum request amount may be up to

$50,000. International applicants welcome. **Click to download Application Instructions and Cover Page.**

Milken Family Foundation Translational Research Award to Fund Epilepsy Research
Deadline: September 1, 2006
Administered by the Epilepsy Therapy Development Project http://www.epilepsytdp.org/
The Milken Family Foundation Translational Research Award is designed to advance the development of novel therapies for the treatment of epilepsy.

All grant proposals must demonstrate a clear and concise research plan integrating laboratory science with the clinical research, the probability of success, and the estimated timeframe for development. Preference is given to those proposals that already have a commercial partner committed to the research project. Other areas of consideration include but are not limited to seed funding for preliminary work necessary to explore novel approaches; projects, which if successful, offer a clear path to further development; proposals that support the commercialization of academic research projects; and research to bring new approaches and therapy to children.

Any individual holding an M.D., Ph.D., or equivalent degree is eligible to submit a proposal. Proposals for research originating from outside the United States are welcome.

Two grants in the amount of $50,000 each will be awarded.

Visit the Web site of the Epilepsy Therapy Development Project for complete program guidelines and application procedures. http://fconline.foundationcenter.org/pnd/10002796/epilepsytdp

Understanding and Treating Tuberous Sclerosis Complex (R01) (PAS-06-205)
National Institute of Neurological Disorders and Stroke
National Cancer Institute
National Institute of Arthritis and Musculoskeletal and Skin Diseases
National Institute of Diabetes and Digestive and Kidney Diseases
National Institute of Mental Health
Tuberous Sclerosis Alliance
Application Receipt/Submission Date(s): Multiple dates, see announcement.
http://grants.nih.gov/grants/guide/pa-files/PAS-06-205.html

Understanding and Treating Tuberous Sclerosis Complex (R21) (PAS-06-206)
National Institute of Neurological Disorders and Stroke
National Cancer Institute
National Institute of Arthritis and Musculoskeletal and Skin Diseases
National Institute of Diabetes and Digestive and Kidney Diseases
National Institute of Mental Health
Tuberous Sclerosis Alliance
Application Receipt/Submission Date(s): Multiple dates, see announcement.
http://grants.nih.gov/grants/guide/pa-files/PAS-06-206.html

Call for Nominations: Sloan Research Fellowships in Neuroscience
Nominations for candidates for Sloan Research Fellowships in Neuroscience are due by Sept. 15, 2006. Candidates must be members of the regular faculty at a college or university in the United States or Canada and must be at an early stage of their research career. More information can be found by visiting www.sloan.org/programs/scitech_fellowships.shtml, or by writing to: Sloan Research Fellowships, Alfred P. Sloan Foundation, 630 Fifth Avenue, Suite 2550, New York, NY 10111-0242.

American Skin Association 2007 Grants and Awards Program
Deadline: October 2, 2006
The following grant awards are available:

- Research Scholar Award of $50,000 to foster the career development of young research investigators working at the level of instructor through associate professor in the fields of dermatology and cutaneous biology.
- Research Scholar Award for Melanoma/Non-melanoma Skin Cancer of $50,000 to foster the career development of young research investigators working at the level of instructor through associate professor in the fields of dermatology and cutaneous biology.
- Research Scholar Award for Psoriasis & Inflammatory Skin Diseases to foster the career development of young research investigators working at the level of instructor through associate professor in the fields of dermatology and cutaneous biology.
- Research Grants for $15,000 to support disease-specific research targeting five (5) skin disorders: Skin Cancer, Melanoma, Vitiligo/Pigment Cell Biology, Childhood Skin Diseases/Disfigurement, and Autoimmune/Inflammatory Skin Disease
- Grants for Health Services/Quality of Life/Outcome Studies for $15,000.
- Medical Student Stipend (Targeting Melanoma/Skin Cancer) for $7,000.

For more information, go to: www.americanskin.org

George M. O'Brien Kidney Research Core Centers (P30) (RFA-DK-06-010)
National Institute of Diabetes and Digestive and Kidney Diseases
Application Receipt Date(s): November 22, 2006
http://grants.nih.gov/grants/guide/rfa-files/RFA-DK-06-010.html

Research Centers of Excellence in Pediatric Nephrology (P50) (RFA-DK-06-011)
National Institute of Diabetes and Digestive and Kidney Diseases
Application Receipt Date(s): November 22, 2006
http://grants.nih.gov/grants/guide/rfa-files/RFA-DK-06-011.html

High-Accuracy Protein Structure Modeling (R01) (RFA-GM-07-003)
National Institute of General Medical Sciences
Application Receipt Date(s): October 23, 2006
http://grants.nih.gov/grants/guide/rfa-files/RFA-GM-07-003.html

Research On Autism And Autism Spectrum Disorders (R01) (PA-06-390)
National Institute of Mental Health
National Institute of Child Health and Human Development
National Institute on Deafness and Other Communication Disorders
National Institute of Environmental Health Sciences
National Institute of Neurological Disorders and Stroke
National Institute of Nursing Research
Office of Dietary Supplements
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PA-06-390.html

Research on Autism and Autism Spectrum Disorders (R03) (PA-06-391)
National Institute of Mental Health
National Institute of Child Health and Human Development
National Institute on Deafness and Other Communication Disorders
National Institute of Environmental Health Sciences
National Institute of Neurological Disorders and Stroke
National Institute of Nursing Research
Office of Dietary Supplements
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PA-06-391.html

Research on Autism and Autism Spectrum Disorders (R21) (PA-06-392)
National Institute of Mental Health

National Institute of Child Health and Human Development
National Institute on Deafness and Other Communication Disorders
National Institute of Environmental Health Sciences
National Institute of Neurological Disorders and Stroke
National Institute of Nursing Research
Office of Dietary Supplements
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PA-06-392.html

NIOSH Small Research Grant Program (R03) (PAR-06-364)
Centers for Disease Control and Prevention
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PAR-06-364.html

NIAMS Small Grant Program For New Investigators (R03) (PAR-06-383)
National Institute of Arthritis and Musculoskeletal and Skin Diseases
Application Receipt/Submission Date(s): June 23, 2006, October 23, 2006, February 23, 2007, June 23, 2007, October 23,2007, February 23, 2008, June 23, 2008, October 23, 2008
http://grants.nih.gov/grants/guide/pa-files/PAR-06-383.html

Basic and Translational Research Opportunities in the Social Neuroscience of Mental Health (R01) [SF424 (R&R)] (PAR-06-389)
National Institute of Mental Health
Application Receipt/Submission Date(s): September 25, 2006; September 25, 2007; September 25, 2008
http://grants.nih.gov/grants/guide/pa-files/PAR-06-389.html

Global Research Initiative Program, Basic/Biomedical Sciences (R01) (PAR-06-394)
John E. Fogarty International Center
National Cancer Institute
National Institute on Aging
National Institute of Neurological Disorders and Stroke
Office of Dietary Supplements
Application Receipt/Submission Date(s): September 21, 2006; September 21, 2007; September 21, 2008
http://grants.nih.gov/grants/guide/pa-files/PAR-06-394.html

NIH Clinical Trial Planning Grant Program (R34)(PA-06-363)
Letter of Intent Receipt Date: Not applicable
Application Receipt Date(s): Multiple dates, see announcement
http://grants1.nih.gov/grants/guide/pa-files/PA-06-363.html

Research On Ethical Issues In Human Subjects Research (R03) (PA-06-367)
Letter of Intent Receipt Date: Not applicable
Application Receipt Date(s): Standard dates apply
http://grants1.nih.gov/grants/guide/pa-files/PA-06-367.html

Research On Ethical Issues In Human Subjects Research (R21) (PA-06-368)
Letter of Intent Receipt Date: Not applicable
Application Receipt Date(s): Standard dates apply
http://grants1.nih.gov/grants/guide/pa-files/PA-06-368.html

Research On Ethical Issues In Human Subjects Research (R01) (PA-06-369)
Letter of Intent Receipt Date: Not applicable
Application Receipt Date(s): Standard dates apply
http://grants1.nih.gov/grants/guide/pa-files/PA-06-369.html

Ruth L. Kirschstein National Research Service Awards (NRSA) for Individual Postdoctoral Fellows (F32) (PA-06-373)
Letter of Intent Receipt Date: Not applicable
Application Receipt Date(s): Standard dates apply
http://grants1.nih.gov/grants/guide/pa-files/PA-06-373.html

NIAMS Small Grant Program For New Investigators (R03)(PAR-06-383)
Letters of Intent Receipt Date: Not applicable
Application Receipt Date(s): June 23, 2006, October 23, 2006, February 23, 2007, June 23, 2007, October 23,2007, February 23, 2008, June 23, 2008, October 23, 2008
http://grants.nih.gov/grants/guide/pa-files/PAR-06-383.html

Studies of Energy Balance and Cancer in Humans (R01) (PA-06-404)
National Cancer Institute
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PA-06-404.html

Studies of Energy Balance and Cancer in Humans (R21) (PA-06-405)
National Cancer Institute
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PA-06-405.html

Directed Stem Cell Differentiation for Cell-Based Therapies for Heart, Lung, and Blood, and Aging Diseases (R21) (PA-06-407)
National Heart, Lung, and Blood Institute
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PA-06-407.html

Circulating Cells in Cancer Detection (R21) (PA-06-423)
National Cancer Institute
Application Receipt/Submission Date(s): Multiple dates, see announcement.
http://grants.nih.gov/grants/guide/pa-files/PA-06-423.html

Neurodevelopment and Neuroendocrine Signaling in Adolescence: Relevance to Mental Health (R21) (PA-06-428)
National Institute of Mental Health
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PA-06-428.html

Innovations in Biomedical Computational Science and Technology (R01) (PAR-06-410)
National Institute of General Medical Sciences
National Cancer Institute
National Human Genome Research Institute
National Institute on Aging
National Institute on Alcohol Abuse and Alcoholism
National Institute of Allergy and Infectious Diseases
National Institute of Arthritis and Musculoskeletal and Skin Diseases
National Institute of Biomedical Imaging and Engineering
National Institute on Drug Abuse
National Institute on Deafness and Other Communication Disorders
National Institute of Dental and Craniofacial Research
National Institute of Diabetes and Digestive and Kidney Diseases
National Institute of Environmental Health Sciences
National Institute of Mental Health

National Institute of Neurological Disorders and Stroke
National Library of Medicine
Application Receipt/Submission Date(s): June 24, 2006; September 24, 2006; January 24, 2007; May 24, 2007; September 24, 2007; January 24, 2008; May 24, 2008; September 24, 2008, January 24, 2009
http://grants.nih.gov/grants/guide/pa-files/PAR-06-410.html

Exploratory Innovations in Biomedical Computational Science and Technology (R21) (PAR-06-411)
National Institute of General Medical Sciences
National Cancer Institute
National Human Genome Research Institute
National Institute on Aging
National Institute on Alcohol Abuse and Alcoholism
National Institute of Allergy and Infectious Diseases
National Institute of Arthritis and Musculoskeletal and Skin Diseases
National Institute of Biomedical Imaging and Engineering
National Institute on Drug Abuse
National Institute on Deafness and Other Communication Disorders
National Institute of Dental and Craniofacial Research
National Institute of Diabetes and Digestive and Kidney Diseases
National Institute of Environmental Health Sciences
National Institute of Mental Health
National Institute of Neurological Disorders and Stroke
National Library of Medicine
Application Receipt/Submission Date(s): June 24, 2006; September 24, 2006; January 24, 2007; May 24, 2007; September 24, 2007; January 24, 2008; May 24, 2008; September 24, 2008, January 24, 2009
http://grants.nih.gov/grants/guide/pa-files/PAR-06-411.html

Brain Disorders in the Developing World: Research Across the Lifespan (R21) (PAR-06-420)
John E. Fogarty International Center
Institute of Neurosciences, Mental Health and Addiction
National Eye Institute
National Institute on Aging
National Institute on Alcohol Abuse and Alcoholism
National Institute of Child Health and Human Development
National Institute on Drug Abuse
National Institute of Environmental Health Sciences
National Institute of Mental Health
National Institute of Neurological Disorders and Stroke
Office of Dietary Supplements
Application Receipt/Submission Date(s): Non HIV/AIDS: May 16, 2007; HIV/AIDS-related applications only: August 23, 2006; August 23, 2007
http://grants.nih.gov/grants/guide/pa-files/PAR-06-420.html

Research on Psychopathology In Intellectual Disabilities (Mental Retardation) [R01] (PA-06-431)
National Institute of Mental Health
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PA-06-431.html

Basic and Preclinical Research on Complementary and Alternative Medicine (CAM) [R01] (PA-06-440)
National Center for Complementary and Alternative Medicine
National Cancer Institute
Office of Dietary Supplements

Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PA-06-440.html

Early Identification and Treatment of Mental Disorders in Children and Adolescents (R01) (PA-06-442)
National Institute of Mental Health
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PA-06-442.html

Interventions And Practice Research Infrastructure Program (IP-RISP) (R24) (PAR-06-441)
National Institute of Mental Health
Application Receipt/Submission Date(s): Multiple dates, see announcement
http://grants.nih.gov/grants/guide/pa-files/PAR-06-441.html

AHRQ Individual Awards for Postdoctoral Fellows (F32) (PAR-06-409)
Agency for Healthcare Research and Quality
Application Receipt/Submission Date(s): April 5, August 5, December 5 annually (beginning August 5, 2006 and ending December 5, 2008)
http://grants.nih.gov/grants/guide/pa-files/PAR-06-409.html

NEW TSC PUBLICATIONS

Almoosa KF, McCormack FX, Sahn SA (2006) Pleural disease in lymphangioleiomyomatosis. Clin Chest Med 27(2):355-68

Almoosa KF, Ryu JH, Mendez J, Huggins JT, Young LR, Sullivan EJ, Maurer J, McCormack FX, Sahn SA (2006) Management of pneumothorax in lymphangioleiomyomatosis: effects on recurrence and lung transplantation complications. Chest 129(5):1274-81

Armeni VT, Radomski JS, Moritz MJ, Gaughan WJ, Hecker WP, Lavelanet A, McGrory CH, Coscia LA (2004) Report from the national transplantation pregnancy registry (NTPR): outcomes of pregnancy after transplantation. Clin Transpl 103-14

Calender A, Dupasquier S, Cordier M, Zhang CX; dans le cadre du Groupe d'etude des Tumeurs Endocrines (GTE) (2005) [Genetics of endocrine tumours.] Ann Pathol 25(6):463-86 [Article in French]

Chaturvedi D, Poppleton HM, Stringfield T, Barbier A, Patel TB (2006) Subcellular Localization and Biological Actions of Activated RSK1 Are Determined by Its Interactions with Subunits of Cyclic AMP-Dependent Protein Kinase. Mol Cell Biol 26(12):4586-600

Cota D, Proulx K, Smith KA, Kozma SC, Thomas G, Woods SC, Seeley RJ (2006) Hypothalamic mTOR signaling regulates food intake. Science 312(5775):927-30

Crozier SJ, Zhang X, Wang J, Cheung J, Kimball SR, Jefferson LS (2006) Activation of Signaling Pathways and Regulatory Mechanisms of mRNA Translation Following Myocardial Ischemia/Reperfusion. J Appl Physiol 2006 May 11 [Epub ahead of print]

Curatolo P (2006) Tuberous sclerosis: genes, brain, and behaviour. Dev Med Child Neurol 48(6):404

Dann SG, Thomas G (2006) The amino acid sensitive TOR pathway from yeast to mammals. FEBS Lett 2006 May 2 [Epub ahead of print]

Davis CJ, Barton JH, Sesterhenn IA (2006) Cystic angiomyolipoma of the kidney: a clinicopathologic description of 11 cases. Mod Pathol 19(5):669-74

Devlin LA, Shepherd Ch, Crawford H, Morrison P (2006) Tuberous sclerosis complex: clinical features, diagnosis, and prevalence within Northern Ireland. Dev Med Child Neurol 48(6):495-9

Eun SH, Kang HC, Kim DW, Kim HD (2006) Ketogenic diet for treatment of infantile spasms. Brain Dev 2006 May 10 [Epub ahead of print]

Fan QW, Knight ZA, Goldenberg DD, Yu W, Mostov KE, Stokoe D, Shokat KM, Weiss WA (2006) A dual PI3 kinase/mTOR inhibitor reveals emergent efficacy in glioma. Cancer Cell 9(5):341-349

Fine SW, Reuter VE, Epstein JI, Argani P (2006) Angiomyolipoma With Epithelial Cysts (AMLEC): A Distinct Cystic Variant of Angiomyolipoma. Am J Surg Pathol 30(5):593-599

Firat AK, Karakas HM, Erdem G, Yakinci C, Bicak U (2006) Diffusion weighted MR findings of brain involvement in tuberous sclerosis. Diagn Interv Radiol 12(2):57-60

Freilinger A, Rosner M, Hengstschlager M (2006) Tuberin negatively affects BCL-2's cell survival function. Amino Acids 2006 May 26 [Epub ahead of print]

Freilinger A, Rosner M, Krupitza, Nishino M, Lubec G, Korsmeyer SJ, Hengstschlager M (2006) Tuberin activates the proapoptotic molecule BAD. Oncogene 2006 May 15 [Epub ahead of print]

Goncharova EA, Goncharov DA, Spaits M, Noonan DJ, Talovskaya E, Eszterhas A, Krymskaya VP (2006) Abnormal growth of smooth muscle-like cells in lymphangioleiomyomatosis: Role for tumor suppressor TSC2. Am J Respir Cell Mol Biol 34(5):561-72 Epub 2006 Jan 19

Jiang X, Yeung RS (2006) Regulation of Microtubule-Dependent Protein Transport by the TSC2/Mammalian Target of Rapamycin Pathway. Cancer Res 66(10):5258-69

Johnson SR (2006) Lymphangioleiomyomatosis. Eur Respir J 27(5):1056-65

Khoo YT, Ong CT, Mukhopadhyay A, Han HC, Do DV, Lim IJ, Phan TT (2006) Upregulation of secretory connective tissue growth factor (CTGF) in keratinocyte-fibroblast coculture contributes to keloid pathogenesis. J Cell Physiol 2006 May 16 [Epub ahead of print]

Kim JY, Tillison K, Lee JH, Rearrick DA, Smas C (2006) The Adipose Tissue Triglyceride Lipase ATGL/PNPLA2 is Downregulated by Insulin and TNF{alpha} in 3T3-L1 Adipocytes and is a Target for Transactivation by PPAR{gamma}. Am J Physiol Endocrinol Metab 2006 May 16 [Epub ahead of print]

Kwon CH, Luikart BW, Powell CM, Zhou J, Matheny SA, Zhang W, Li Y, Baker SJ, Parada LF (2006) Pten Regulates Neuronal Arborization and Social Interaction in Mice. Neuron 50(3):377-388

Lang CH (2006) Elevated Plasma Free Fatty Acids Decrease Basal Protein Synthesis but Not the Anabolic Effect of Leucine in Skeletal Muscle. Am J Physiol Endocrinol Metab 2006 May 9 [Epub ahead of print]

Marderosian M, Sharma A, Funk AP, Vartanian R, Masri J, Jo OD, Gera JF (2006) Tristetraprolin regulates Cyclin D1 and c-Myc mRNA stability in response to rapamycin in an Akt-dependent manner via p38 MAPK signaling. Oncogene 2006 May 15 [Epub ahead of print]

Riemenschneider MJ, Betensky RA, Pasedag SM, Louis DN (2006) AKT Activation in Human Glioblastomas Enhances Proliferation via TSC2 and S6 Kinase Signaling. Cancer Res 66(11):5618-23

Robb VA, Astrinidis A, Henske EP (2006) Frequent hyperphosphorylation of ribosomal protein S6 in lymphangioleiomyomatosis-associated angiomyolipomas. Mod Pathol 19(6):889

Rosner M, Freilinger A, Hengstschlager M (2006) The tuberous sclerosis genes and regulation of the cyclin-dependent kinase inhibitor p27. Mutat Res 2006 May 16 [Epub ahead of print]

Rossi G, Cavazza A, Casali C, Cesinaro AM, Cinquantini F, Morandi U (2006) Tuberous sclerosis complex presenting as a pulmonary solitary nodule. Histopathology 48(6):769-71

Simpson E, Patel U (2006) Diagnosis of angiomyolipoma using computed tomography-region of interest </=-10HU or 4 adjacent pixels </=-10HU are recommended as the diagnostic thresholds. Clin Radiol 61(5):410-6

Smolewski P (2006) Recent developments in targeting the mammalian target of rapamycin (mTOR) kinase pathway. Anticancer Drugs 17(5):487-94

Sourbier C, Lindner V, Lang H, Agouni A, Schordan E, Danilin S, Rothhut S, Jacqmin D, Helwig JJ, Massfelder T (2006) The Phosphoinositide 3-Kinase/Akt Pathway: A New Target in Human Renal Cell Carcinoma Therapy. Cancer Res 66(10):5130-5142

Takahashi M, Endo K, Matsui Y, Mori K, Yasui N (2006) A remarkable large hamartoma around the knee in a patient with tuberous sclerosis. Pediatr Int 48(3):340-1

Talvas J, Obled A, Fafournoux P, Mordier S (2006) Regulation of Protein Synthesis by Leucine Starvation Involves Distinct Mechanisms in Mouse C2C12 Myoblasts and Myotubes. J Nutr 136(6):1466-71

Vary TC, Lynch CJ (2006) Meal feeding enhances formation of eIF4F in skeletal muscle: role of increased eIF4E availability and eIF4G phosphorylation. Am J Physiol Endocrinol Metab 290(4):E631-42 Epub 2005 Nov 1

Volkmar FR, Weisner LA, Westphal A (2006) Healthcare issues for children on the autism spectrum. Curr Opin Psychiatry 19(4):361-6

Wu EH, Tam BH, Wong YH (2006) Constitutively active alpha subunits of G and G families inhibit activation of the pro-survival Akt signaling cascade. FEBS J 273(11):2388-98

Wu EH, Wong YH (2006) Activation of muscarinic M4 receptor augments NGF-induced pro-survival Akt signaling in PC12 cells. Cell Signal 18(3):285-93 Epub 2005 Jun 23

Yan L, Findlay G, Jones R, Procter J, Cao Y, Lamb RF (2006) Hyperactivation of MTOR signalling by a gain-of-function mutant of the RHEB GTPase. J Biol Chem 2006 May 25 [Epub ahead of print] http://www.jbc.org/cgi/reprint/C600028200v1

Young LR, Almoosa KF, Pollock-Barziv S, Coutinho M, McCormack FX, Sahn SA (2006) Patient perspectives on management of pneumothorax in lymphangioleiomyomatosis. Chest 129(5):1267-73

CONFERENCES & SEMINARS

June 15-17, 2006
American Epilepsy Society Mid-Year Meeting
Oak Brook, IL
www.aesnet.org
****Stop by the TS Alliance Exhibit in the Exhibit Hall!!**

June 22, 2006
"Signaling Biochemistry and TSC1/TSC2: The Implications for Lymphangioleiomyomatosis (LAM) and Tuberous Sclerosis Complex (TSC)"
Presented by: Kun-Liang Guan, PhD & Lew Cantley, PhD
Harvard Medical School, Boston, MA
LAM/TSC SEMINAR SERIES http://www.bostonlamtscresearch.org/

July 13, 2006
Eighth Annual NIH SBIR/STTR Conference, (NOT-OD-06-072)
National Institutes of Health
http://grants.nih.gov/grants/guide/notice-files/NOT-OD-06-072.html

July 14-16, 2006
National TSC Conference
Organized by the Tuberous Sclerosis Alliance
Indian Lakes Resort
Chicago, Illinois
http://www.tsalliance.org

December 1-5, 2006
2006 AES Annual Meeting/North American Regional Epilepsy Congress
San Diego Convention Center
Abstract submissions accepted March 6 – June 5, 2006
For more information: http://www.aesnet.org/Visitors/AnnualMeeting/index.cfm
****TSC SIG will take place on Saturday, December 2, 2006**

March 28-30, 2007
NINDS Epilepsy Conference
Natcher Center, Bethesda, MD
Follow-up to 2000 Conference "Curing Epilepsy: Focus on the Future"
http://www.ninds.nih.gov

April 19-22, 2007
2007 LAM International Research Conference
The LAM Foundation
Cincinnati, OH
http://www.thelamfoundation.org

May 24-26, 2007
Tuberous Sclerosis Complex International Research Conference 2007 in Rome (Italy)
Venue: Grand Hotel Palazzo Carpegna, Rome, Italy
Information: curatolo@uniroma2.it

September 2007
International Tuberous Sclerosis Complex Research Conference
Washington, DC Metro Area
More information coming soon!

NEWS

New TSCRP Publication
The Tuberous Sclerosis Research Program (TSCRP) in the Congressionally Directed Medical Research Program in the Department of Defense has a new publication summarizing the progress made in TSC research during the first 4 years of funding. You can access this publication at:
http://cdmrp.army.mil/tscrp

Request for Information (RFI): Tools and Resources for Research in Neurodevelopment (NOT-MH-06-114)
NIH Blueprint for Neuroscience Research, including NINDS
http://grants.nih.gov/grants/guide/notice-files/NOT-MH-06-114.html

Chemical Biology Suggests New Way to Thwart Brain Cancer
Taking advantage of chemical inhibitors from the pharmaceutical industry, researchers have synthesized and characterized a panel of compounds that may lead to new strategies for targeting glioblastoma, a common type of brain tumor that usually thwarts treatment. The compounds have also revealed new information about insulin signaling, and could be a powerful tool to evaluate cellular enzymes as potential targets for drug design. This research by Kevan M. Shokat, Ph.D., HHMI investigator, University of California, San Francisco, was published in an April 27, 2006, advanced online publication of Cell and in the May 2006 issue of Cancer Cell. For the full story, go to http://www.hhmi.org/news/shokat20060515.html

Mutant Mice Show Key Autism Traits
While the causes of autism remain complex and mysterious, researchers are steadily adding pieces to its intricate puzzle. In what they believe to be a significant new approach to understanding "autism spectrum disorders" (ASD), researchers have developed a mouse that shows abnormal social interactions and brain hypertrophy characteristic of the disease.

In an article in the May 4, 2006, Neuron, Luis Parada and his colleagues report the results of removing (knocking out) a single gene associated with brain disorders in mice. The gene, called Pten, had been associated with a broad array of such disorders when knocked out throughout the animals' bodies. However, Parada and colleagues engineered mice to knock out the gene only in mature, or "postmitotic," neurons of the cerebral cortex and hippocampus in the brain. These regions are associated with higher brain function such as learning and memory.

The mutant mice showed major abnormalities in a variety of social interactions normally undertaken in mice, found the researchers. For example, they were far less likely to approach and sniff new mice introduced into their cage, compared to normal mice. And while normal mice show markedly less interest when such new mice are later reintroduced, the mutant mice did not show such a reduction in interest. This abnormality indicated "impaired social learning or inability to identify the juvenile due to the low level of initial interaction," wrote the researchers.

In other tests of social behavior, the researchers found that—when given the choice of investigating a cage holding another mouse or an empty cage--the mutant mice showed similar preference for the two. Normal mice by far prefer investigating the caged mouse.

The researchers also found the mutant mice to be deficient in nest-forming and sexual and maternal behavior. In tests of their reaction to such sensory stimuli as bright environments, the mutant mice showed hyperactivity and increased anxiety. They also showed sporadic seizures.

The researchers concluded that "the mutant mice exhibited deficits in all social paradigms tested and also showed exaggerated reaction to sensory stimuli, anxiety-like behaviors, seizures, and decreased learning, which are features associated with ASD."

Finally, the researchers found that the mutant mice showed the same kind of abnormal overgrowth of neurons and their interconnections seen in some people with ASD that also show increased brain volume and enlarged heads.

Wrote Joy Greer and Anthony Wynshaw-Boris in a preview in the same issue of Neuron, "caution is warranted because there are aspects of ASD that are not recapitulated in the Pten mutants. For example, the Pten mutants do not display the expression of abnormal repetitive behaviors seen in

ASD, although it is unreasonable to expect perfect phenotypic overlap of human ASD with any mouse model."

Also, they wrote, "as appropriately pointed out by the authors, Pten deletion is restricted to postmitotic neurons in the CNS [central nervous system] in their model, and current evidence suggests that ASD is a developmental rather than a neurodegenerative disorder."

Greer and Wynshaw-Boris concluded that "Whether or not the findings . . . have direct relevance to ASD, the experimental results described are intriguing and represent an important entry point to understanding the role of Pten in postmitotic neurons of the hippocampus and cortex as well as providing new insight into the molecular correlates mediating social- and anxiety-related behaviors in the postnatal CNS." For complete article see: http://www.eurekalert.org/pub_releases/2006-05/cp-mms042706.php

New Study Shows Autism-Related Developmental 'Red Flags' at Age 2 in Children With Autism Spectrum Disorders Findings Present Window of Opportunity for Detection and Intervention Before Typical Diagnosis at Age Three or Four

PRNewswire - Early detection of autism is critical for early intervention, yet autism spectrum disorders (ASD) are typically not diagnosed until after three years of age. However, a study published today in the Journal of Child Psychology and Psychiatry found differences between typically developing children and those with ASD are detectable by two years of age. Because there are currently no medical diagnostic tests for autism, identifying developmental disruptions in infants and very young children with ASD may allow for earlier detection and critical intervention.

The study examined development in 87 infants at 6, 14 and 24 months of age using a standardized development test. Based on data and clinical judgment at 24 months, participants were classified as: unaffected, language delayed (LD) or ASD. Researchers compared development across groups at the three target ages and observed statistically significant differences between the ASD group and the unaffected group at 14 months. By 24 months, significant differences were detectable between the ASD group and both the unaffected and LD groups.

"Introducing behavioral interventions even one year earlier can make a tremendous difference in the lives of children with autism and their families," said Dr. Rebecca Landa, Director of the Center for Autism and Related Disorders at the Kennedy Krieger Institute in Baltimore, MD and lead author of the study. "If we are able to educate professionals to identify red flags in development we can then recognize and diagnose the disorder at one- and-a-half or two years of age, instead of three or four, allowing for earlier intervention and ultimately better outcomes."

Participants in the study included infants at high risk for autism (siblings of children with autism), and infants at low risk (no family history of autism). Researchers measured development using the Mullen Scales of Early Learning (MSEL), a standardized test which assesses five domains of development, including: gross and fine motor; visual reception; and receptive and expressive language. At 14 months, four of the five mean MSEL scores were significantly lower in toddlers with ASD than those in the unaffected group. By 24 months, the ASD group performed significantly worse than the unaffected group in all domains of development, and worse than the LD group in three domains. Nearly half of the ASD group showed developmental worsening between 14 and 24 months.

This study and previous research studies conducted by Dr. Landa found that developmental red flags for parents and physicians to watch for include: poor eye contact; reduced responsive smiling; diminished babbling; reduced social responsivity; and difficulty with language development, play and initiating or sustaining social interaction.

"With so many unanswered questions in the autism arena, we need to tackle this condition on many different fronts," said Dr. Gary Goldstein, President and CEO of the Kennedy Krieger Institute. "For this reason, experts at Kennedy Krieger are not only conducting early diagnosis and intervention

research, but also investigating the genetic and environmental causes of autism, as well as other potential treatment options."

Autism is the fastest growing developmental disorder in the United States. This year more children will be diagnosed with autism than AIDS, diabetes and cancer combined, yet profound gaps remain in our understanding of both the causes and cures of the disorder. Increasing our knowledge about developmental disruptions in individuals with ASD is crucial, since early detection and intervention can lead to improved outcomes in individuals with ASD. http://tinyurl.com/qbhyn

US Survey Shows Autism Very Common
By Maggie Fox for Reuters
The first national surveys of autism show the condition is very common among U.S. children -- with up to one in every 175 with the disorder, the U.S. Centers for Disease Control and Prevention said on Thursday.

This adds up to at least 300,000 U.S. schoolchildren with autism, a condition that causes trouble with learning, socializing and behavior, the CDC said.

The CDC analyzed data on 24,673 children whose parents took part in two separate government surveys on health in the United States to generate its first national estimate of the prevalence of autism.

"Together, these two national surveys of parents indicate that at least 300,000 children aged 4 to 17 years old had autism in 2003-04," the CDC said in the report.

The surveys came up with similar results -- that autism has been diagnosed in anywhere between 5.5 per 1,000 and 5.7 per 1,000 children aged 4 to 17. This translates to between one in every 175 to one in every 181 children.

"(The surveys) affirm that autism is a condition of major public health concern that affects many families," Dr. Jose Cordero, director of CDC's National Center on Birth Defects and Developmental Disabilities, told reporters in a telephone briefing. He said the findings fit in with previous estimates of autism, which were based on local surveys done in Atlanta and New Jersey.

The 1996 Metropolitan Atlanta Developmental Disabilities Surveillance Program survey showed autism had been diagnosed in 3.4 per 1,000 of the 3- to 10-year-olds included, or one in every 296. The 1998 Brick Township, New Jersey survey showed a rate of 6.7 per 1,000 children of the same age, or one in every 166.

None of the surveys pointed to a cause for autism -- a matter of deep controversy in the United States. Some groups have accused the CDC of covering up data that would link autism with vaccines, although studies in several countries have discounted such a link.

"We recognize that parents want answers," Cordero said.

"If children have autism, parents want to know what caused it and how they can lower this risk if they have other children. We share their frustration."

No Trends
While there were some differences among age groups, the CDC said the differences were not statistically significant.

"Both surveys indicated that boys were nearly four times more likely to have been diagnosed with autism than girls," the CDC said in the report, published in its weekly report on death and disease.

"Both surveys indicated that Hispanic children were less likely to have an autism diagnosis." The survey could not indicate why that might be.

Laura Schieve, an epidemiologist at the National Center on Birth Defects and Developmental Disabilities who helped conduct the study, said the study could not answer many questions about autism.

"Although often autism can be identified as early as 18 months, many children will not be diagnosed until they get to school," she told the briefing.

And parents of older children could easily have forgotten an early childhood diagnosis, she said.

"After children have received treatment for an extended time, they may show fewer symptoms of autism," she added.

"Also the criteria for autism have been broadened slightly."

CDC original article here: http://www.sarnet.org/lib/CDCPrev5-4-06.htm
http://abcnews.go.com/Technology/wireStory?id=1923924

NIH LAUNCHES CLINICAL STUDIES NATIONWIDE TO INVESTIGATE RARE DISEASES
$71 Million Effort to Address Neglected Conditions

The National Institutes of Health (NIH) announced today it is launching the first clinical studies of its Rare Diseases Clinical Research Network (RDCRN). More than 20 studies are expected to open in the next few months at about 50 sites across the United States and in several other countries including the United Kingdom, Japan, and Brazil.

Rare Diseases Studies Listed By City:
http://www.ncrr.nih.gov/clinical/rdcrn_studylist.asp

Officially, a rare disease is defined as a disease or condition affecting fewer than 200,000 persons in the United States. About 6,000 such disorders have been identified, impacting an estimated 25 million Americans. Few drug companies conduct research into rare diseases since there is little chance to recoup the costs of developing treatments for such small, geographically dispersed populations.

"By studying the genetic component of these rare diseases, we hope to be able to better predict the course of the illnesses and provide more effective, personalized treatments for those afflicted," said Elias A. Zerhouni, M.D., NIH Director. "Ultimately, this individualized approach, completely different from how we treat patients today, will allow us to prevent or to promptly treat the complications arising from these genetic disorders."

The RDCRN has received five-year funding awards totaling $71 million and is coordinated primarily by two NIH components -- the Office of Rare Diseases (ORD) and the National Center for Research Resources (NCRR). A central data and technology coordinating center and 10 research consortia will investigate a variety of diseases including Angelman, Rett, Prader-Willi syndromes; myelodysplastic syndrome and other bone marrow failure conditions; lymphangioleiomyomatosis (LAM), rare genetic disorders of the airways, and other rare lung diseases; episodic ataxia, Andersen-Tawil syndrome, and nondystrophic myotonias; several vasculitides; urea cycle disorders; antiphospholipid syndrome and other rare thrombotic diseases; rare pediatric liver diseases; and rare genetic steroid defects.

"Increased collaboration among researchers investigating rare diseases will not only lead to discoveries that will help prevent and treat these conditions, but may also produce medical advances that will benefit the population in general," said Stephen Groft, Pharm.D., Director of NIH's Office of Rare Diseases.

The initiative includes interventional trials to test new therapies or drugs, as well as longitudinal or natural history studies that will provide information about the characteristics of rare diseases and their progression over time. Data collection standards have been established for the research projects and the data produced will be made publicly available with appropriate safeguards for patient confidentiality.

"This network was created to share the experience, approaches, and tools for the study of rare diseases and to train the next generation of investigators," said Barbara M. Alving, M.D., NCRR's Acting Director. "The adoption of standards and common data elements across diseases is groundbreaking, promotes cross-disease analysis, and provides a rich source of information to be mined by researchers around the world."

Each consortium in the network includes active participation by the relevant patient advocacy groups. In addition, the Coalition of Patient Advocacy Groups (CPAG) was created to represent the more than 30 patient advocacy groups involved in the network. CPAG has been instrumental in outreach to the affected populations and gaining their input into the development of studies.

"In forming this coalition of rare disease groups, NIH has created a powerful vehicle for us to collaborate and communicate with one another that has already brought dividends," said Patrick Cochran, CPAG Chair and founder of the Periodic Paralysis Association. "Not only have we been able to share information and learn from each other, by working together we have also secured additional support from foundations and corporations."

The RDCRN is funded by the ORD; NCRR; National Heart, Lung and Blood Institute; National Institute of Child Health and Human Development; National Institute of Neurological Disorders and Stroke; National Institute of Arthritis and Musculoskeletal and Skin Diseases; and National Institute of Diabetes and Digestive and Kidney Diseases – all components of NIH -- an agency of the Department of Health and Human Services.

For more information about the RDCRN, please visit:
http://www.ncrr.nih.gov/clinical/cr_rdcrn.asp

NCRR provides laboratory scientists and clinical researchers with the environments and tools they need to understand, detect, treat, and prevent a wide range of diseases. This support enables discoveries that begin at a molecular and cellular level, move to animal-based studies, and then are translated to patient-oriented clinical research, resulting in cures and treatments for both common and rare diseases. NCRR connects researchers with one another and with patients and communities across the nation to harness the power of shared resources and research. For more information, visit www.ncrr.nih.gov

The National Institutes of Health (NIH) -- "The Nation's Medical Research Agency" -- includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. It is the primary federal agency for conducting and supporting basic, clinical and translational medical research, and it investigates the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit www.nih.gov

What Controls Stickiness of "Smart" Chromosomal Glue

Researchers have a new understanding of the process cells use to ensure that sperm and eggs begin life with exactly one copy of each chromosome – a process that must be exquisitely regulated to prevent problems such as miscarriages and mental retardation. The new work reveals how gluelike protein complexes release pairs of chromosomes at precisely the moment of meiosis – the specialized cell division process that produces sperm and eggs – enabling them to separate properly. This research by Angelika Amon, Ph.D., HHMI investigator at the Massachusetts Institute of Technology Research was published in the May 03, 2006, issue of Nature. For the full story, go to: http://www.hhmi.org//news/amon20060503.html

"NIAMS at 20," a series of articles featuring NIAMS progress during the last 20 years, debuts in NIH Record.
http://www.nih.gov/nihrecord/04_21_2006/story08.htm

Putting More Protein Structures in the Research Pipeline
Biologists have long been thwarted in determining the three-dimensional structure of protein complexes. Although the structures could reveal a bounty of new details about how proteins function, this information has been slow in coming because the work is difficult and time consuming.

In the major NIH-sponsored structural genomics projects, a large fraction of proteins have been essentially lost from the research pipeline because either they are not expressed or they are expressed in an insoluble form. Researcher David Eisenberg, D.Phil., HHMI investigator, University of California, Los Angeles, believes they have discovered a way to circumvent that problem. This research published in the May 10, 2006, issue of Proceedings of the National Academy of Sciences. For the full story, go to: http://www.hhmi.org//news/eisenberg20060510.html

Secretary's Advisory Committee on Genetics, Health, and Society
REQUEST FOR PUBLIC COMMENT
Draft Report on Policy Issues Associated with Undertaking a Large U.S. Population Cohort Project on Genes, Environment, and Disease
The Secretary's Advisory Committee on Genetics, Health, and Society (SACGHS) is seeking public input on a draft report, Policy Issues Associated with Undertaking a Large U.S. Population Cohort Project on Genes, Environment, and Disease.

The draft report is available electronically at
http://www4.od.nih.gov/oba/sacghs/public_comments.htm

In a 2004 priority-setting process, SACGHS determined that opportunities and challenges associated with conducting large population cohort studies aimed at understanding the relationships of genes, the environment, and common, complex diseases warranted in-depth study. The Director of the National Institutes of Health (NIH), Elias A. Zerhouni, specifically requested SACGHS's advice on the scientific, public, and ethical processes and pathways that might help NIH or HHS make decisions about undertaking such an effort. Dr. Zerhouni specified that the Committee could be most helpful to the Secretary by conducting an inquiry that includes the following steps:

* Step 1: Delineate the questions that need to be addressed in order for policymakers to determine whether the U.S. Government should undertake, in any form, a large population project to elucidate the influence of genetic variation and environmental factors on common, complex disease.
* Step 2: Explore the ways in which, or processes by which, the questions that are identified in Step 1 can be addressed, including the need for any intermediate research studies, pilot projects, or policy analysis efforts.
* Step 3: Taking into account the possible ways in which the questions could be addressed, determine which approaches are optimal and feasible and recommends a specific course of action for moving forward. SACGHS's draft report focuses on preliminary and intermediate questions, steps, and strategies in five areas that should be addressed before an informed decision can be made about whether the United States should undertake a large population cohort project on the interaction of genes, environment and disease. These five areas are research policy, research logistics, regulatory and ethical issues, public health implications of research results, and social implications of research results. The report also identifies options for how these issues might be addressed.

Comments on any aspect of the draft report are welcome. In particular, the Committee would appreciate the public's assessment of whether:

1) The policy issues identified in the draft report are appropriately focused;
2) Any policy issues have been overlooked; and,

3) The issues are organized in appropriate categories and addressed in such a way as to give policymakers sufficient understanding of why the issue is important.

In addition, the Committee would value feedback on the sections of the draft report that discuss the importance of public engagement and the mechanisms that could be employed to achieve such engagement.

Please address comments to Reed V. Tuckson, M.D., SACGHS Chair, and send them to Ms. Amita Mehrotra at mehrotraa@od.nih.gov

Comments may also be sent by fax to 301-496-9839 or by mail to:
Secretary's Advisory Committee on Genetics, Health, and Society
ATTENTION: Ms. Amita Mehrotra
NIH Office of Biotechnology Activities
6705 Rockledge Drive, Suite 750
Bethesda, MD 20892 (20817 for non-US Postal Service mail)

In order to be considered in the development of the final report, comments should be submitted by close of business Monday, July 31, 2006. SACGHS was established by the Department of Health and Human Services (HHS) to serve as a public forum for deliberations on the broad range of human health and societal issues raised by the development and use of genetic and genomic technologies and, as warranted, to provide advice on these issues. For more information about the Committee, please visit http://www4.od.nih.gov/oba/sacghs.htm

Epilepsy Research Foundation Announces Translational Research Funding Awards
Funds Support Development of Imaging Agent and Potential Potent Epilepsy Drug

New York, NY, May 22, 2006 – The Epilepsy Research Foundation, a collaboration of several non-profit organizations, and a supporting organization of the Epilepsy Foundation and the Epilepsy Therapy Development Project today announced two recipients of translational research funds totaling $190,000 for work to advance a promising and potent new epilepsy drug, and for the development of an imaging contrast agent that for the first time will make epileptogenic tissue visible to MRI.

The Epilepsy Research Foundation, a coalition comprised of the Epilepsy Therapy Development Project, the Epilepsy Foundation, and Finding A Cure for Epilepsy and Seizures (FACES), is dedicated to the discovery and development of more effective therapies and finding a cure for the fifty million children and adults around the world, including nearly three million in the U.S., who suffer from this common neurological disorder. Coalition support focuses on research projects with the potential for high-impact, near-term patient benefits.

"About one in three, or one million people with epilepsy in this country face persistent seizures, or significant treatment side effects as the price for seizure control, despite available therapies," said William Braunlich, President of the Epilepsy Therapy Development Project. "The projects funded with today's awards show great potential for improving the surgical and pharmacological treatment of the disorder. The equity investment in NeuroGenomeX, our first such investment, reflects our enthusiasm for its scientific team and the exceptional promise in their novel epilepsy drug."

"The current potential in epilepsy research and this convergence of support from organizations with a common goal of eliminating seizures and epilepsy is unprecedented," said Eric R. Hargis, Epilepsy Foundation President and CEO. "The opportunity to support projects like UCLA's research of the first epilepsy specific contrast agent is most exciting as it could answer the critical need for greater neurosurgical accuracy and success in patients with epilepsy."

Recipients of the Spring 2006 Epilepsy Research Foundation Funds:

Massoud Akhtari, Ph.D., Semel Institutes of Neuropsychiatry, UCLA School of Medicine, received a grant to pursue research with a newly synthesized epilepsy-specific contrast agent for use in improving surgical outcomes. This agent is being developed to selectively tag epileptic brain tissues through MRI imaging. The goal of this project is to provide an opportunity for improved and more accessible surgical therapy for epilepsy through proper localization of epileptic tissues. In addition, this method would enable the monitoring of epilepsies in an effort to identify markers of epileptogenicity and epileptogenesis. Currently no epilepsy-specific contrast agent exists for MRI imaging.

Tom Sutula, M.D., Ph.D., Department of Neurology, University of Wisconsin and Chief Technical Officer, NeuroGenomeX, Inc. a new neurogenomic sciences company discovering and developing new drug targets for the treatment of disorders associated with neuronal plasticity (www.neurogenomex.com), has been selected to receive an equity investment, to advance the development of 2-deoxy-D-glucose (2DG), a glucose analog used for decades as an image tracer, as a novel anticonvulsant and disease-modifying treatment for epilepsy. 2DG was recently discovered to have potent acute anticonvulsant and chronic antiepileptic actions including protection against seizure-induced functional alterations in neural circuits. This study is part of a larger preclinical investigation anticipated to result in an Investigational New Drug application before the end of 2007.

About the Epilepsy Research Foundation:
The Epilepsy Research Foundation was created to support the development of new, innovative translational research in producing new therapies and a cure for epilepsy. The organization was formed by the Epilepsy Therapy Development Project and the Epilepsy Foundation and includes support from Finding A Cure for Epilepsy and Seizures (FACES). All money raised goes directly toward highly promising research projects that can be fast tracked in the fight against seizures. For further information, please visit www.epilepsytdp.org, www.epilepsyfoundation.org, or contact the Epilepsy Research Foundation at 800-470-1655.

TSC INFORMATION

For information about TSC, visit the TS Alliance Web site at: http://www.tsalliance.org or contact the TS Alliance at info@tsalliance.org or by telephone: 1-800-225-6872 or 301-562-9890.