



TSC ALERT

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November 2003

Welcome to the November 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 December 2003 *TSC Alert* contact: Vicky.Whittemore@tsalliance.org

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GRANT ANNOUNCEMENTS:

NAAR FUNDING FOR AUTISM RESEARCH AWARDS AND FELLOWSHIPS

The National Alliance for Autism Research (NAAR) is pleased to announce that starting with the 2004 funding cycle, all proposals can be submitted online via their Web site. Through its various user-friendly features, applicants and corresponding host institutions can also monitor the status of their applications and interact with NAAR's grant administration staff. For more details and instructions, please see the links below, as well as the [NAAR Research Awards FAQ](#) and [NAAR Online Grant Administration System Help](#).

1. [Grants for Biomedical Research in Autism Spectrum Disorder](#)
2. [Grants for Research on Communication in Individuals with Autism](#)

3. [Announcement of the NAAR Predoctoral Fellowships](#)

4. [Announcement of the NAAR Postdoctoral Fellowships](#)

Requirements and guidelines for the letter of intent and full proposal will be available when you log in to the NAAR GRANTS ADMINISTRATION SYSTEM. [APPLY ONLINE](#).

For any related inquiries:

National Alliance for Autism Research

Attn: Grants Administrator

99 Wall Street, Research Park

Princeton, New Jersey 08540

Toll-free: 1-888-777-NAAR (in the U.S.A.) or 1-609-430-9160

Fax: 1-609-430-9163

E-mail: grantadmin@naar.org

If you are an investigator interested in receiving news and updates about the NAAR funding opportunities, simply enter your information in the [Investigator Registry](#) and they will keep you informed via e-mail alerts and other mailings. Thank you for your interest in the NAAR Research and Fellowship Awards.

McKNIGHT ENDOWMENT FUND FOR NEUROSCIENCE

The McKnight Endowment Fund for Neuroscience supports innovative research designed to bring science closer to the day when diseases of the brain can be accurately diagnosed, prevented, and treated. To this end, the McKnight Endowment Fund for Neuroscience invites letters of intent for the 2004 McKnight Technological Innovations in Neuroscience Awards. Up to four awards are made annually, each providing \$100,000 for two years. <http://www.mcknight.org/neuroscience/>

GRASS FOUNDATION

Investigators on the threshold of an independent career in neuroscience are eligible for fellowships doing cutting edge research in neurobiology on a project of their choice. The deadline for applications is December 15, 2003. For more information, please visit The Grass Foundation Web site (<http://www.grassfoundation.org>).

NIH ANNOUNCEMENTS:

NATIONAL INSTITUTES OF HEALTH PUBLISHES FIRST TSC RESEARCH PLAN

The TS Alliance is pleased to announce that the National Institutes of Health (NIH) has published the first comprehensive [research plan](#) for tuberous sclerosis complex (TSC).

The TS Alliance takes seriously its role to cause and accelerate the scientific understanding of TSC. Through our government relations efforts we have engaged the NIH through our efforts in Congress and the efforts of Representative Sue Kelly who introduced a concurrent resolution which makes clear the wishes of Congress to encourage NIH to publish the plan.

The TS Alliance continues to seek out qualified researchers to undertake studies that will support and increase the scientific understanding of TSC along with the goal to seek and develop treatments and an eventual cure. The role of the TS Alliance is to serve as a catalyst to cause new significant increases in the overall amount of TSC research funding as evidenced by the recent \$3 million appropriated through the Department of Defense.

The Department of Defense's Congressionally Directed Medical Research Program is noteworthy in that \$6 million in research funding has been secured through the TS Alliance's efforts from this innovative program conducted via the Department of the Army. In the coming months, the TS Alliance will publish an overall scientific plan that pulls together the resources and expertise of major funding and scientific and research institutes.

It is imperative that the TS Alliance continues to initiate new research through or Center Without Walls (CWW) research consortium. The TS Alliance is currently committed to funding \$1.1 million and continues to seek private funding to ensure this vital research continues.

Mentored Career Development Awards: Change in NIH Policy Concerning Concurrent Support from Career Development Award and a Research Grant

<http://grants1.nih.gov/grants/guide/notice-files/NOT-OD-04-007.html>

Collaborative Research in Computational Neuroscience (CRCNS) - Innovative Approaches to Science and Engineering Research on Brain Function

<http://grants.nih.gov/grants/guide/notice-files/NOT-NS-04-003.html>

TSC TISSUE AVAILABILITY:

If your research on TSC requires the use of human tissue obtained either at the time of surgery or autopsy, please contact the Brain and Tissue Banks supported by the National Institutes of Health to register your protocols and file your IRB approvals (all researchers must have IRB approval to accept human tissue for their research from the Brain and Tissue Banks). Filling out the paperwork will not only facilitate the distribution of tissue from individuals with TSC as it becomes available, but it will inform the Brain and Tissue Bank regarding what tissues are needed, and how the tissue should be prepared and stored for your specific protocols.

The Tissue Request Form for the Brain and Tissue Bank at the University of Maryland is available at: <http://som1.umaryland.edu/braintissuebank/TissueRequestForm.htm>

Or an e-mail tissue request form:

<http://som1.umaryland.edu/braintissuebank/EmailTissueRequestForm.htm>

The researcher who will receive tissue from the Brain and Tissue Bank must also sign an **AGREEMENT FOR TRANSFER OF HUMAN TISSUE** form. This form can be found at:

<http://som1.umaryland.edu/braintissuebank/TissueTransferAgreement.html>

Tissues received at the Brain and Tissue Bank in the last several months include:

- Subependymal giant cell astrocytoma (SEGA)
- Tubers removed at the time of epilepsy surgery
- Renal angiomyolipoma

- Brain, pancreas, heart, kidney, spleen, skin removed at autopsy

If you have questions, please contact the Brain and Tissue at: 1-800-847-1539 or via e-mail at btbumab@umaryland.edu Additional information can be found on their Web site at: <http://som1.umaryland.edu/BTBank/main.html>

RESOURCES:

Neuromice.org

Neuromice develops and distributes new mouse models for neuroscience research. They provide genetic models for research – mice with mutations that alter the nervous system or behavior. They are a not-for-profit consortium sponsored by NIH to provide research resources. Visit <http://www.neuromice.org> for mutant mouse lines ready for distribution, online order entry, and links to other mouse databases.

NEWS:

TUBEROUS SCLEROSIS ALLIANCE HOLDS SCIENTIFIC ADVISORY PANEL DISCUSSION

The First TSC Scientific Advisory Panel Roundtable Discussion took place on Sunday November 9, 2003 in New Orleans, LA in conjunction with the 33rd Annual Meeting of the Society for Neuroscience.

The Tuberous Sclerosis Alliance (TS Alliance) supports the advancement of tuberous sclerosis complex (TSC) research by providing grants, resources and mechanisms for expanding awareness of TSC in the clinical and basic science research communities. The TS Alliance is proud of their latest effort to increase TSC awareness, through the inception of the TS Alliance Scientific Advisory Panel Roundtable Discussion.

Panelists participating in Roundtable Discussions were Zach Hall, Ph.D., University of Southern California; Gregory Holmes, M.D., Dartmouth Hitchcock Medical Center; Joel Moss, M.D., Ph.D., Pulmonary Critical Care Medicine NHLBI, NIH; and Cheryl Walker, Ph.D. Univ. Texas M.D. Anderson Cancer Center. By joining with the TSC research community, the Scientific Advisory Panel will assist the TS Alliance in defining its role in both current and future TSC scientific endeavors. Future Roundtable Discussion participants and topics will reflect recent advancements in TSC research.

The main topic of discussion for the Panel was "Do the TSC1 and TSC2 Genes Have a Unique Function in the Central Nervous System?" This topic was selected so that a discussion of our current knowledge of the function of the genes in other organ systems can be discussed in comparison to what we know about the function of the genes in the central nervous system (CNS). This information was provided in short talks by D.J. Pan, Ph.D. (UT Southwestern), David Kwiatkowski, M.D., Ph.D. (Brigham & Women's Hospital); Elizabeth Petri Henske, M.D. (Fox Chase Cancer Center), Tom Darling, M.D., Ph.D. (USUHSC), Scott Baraban, Ph.D. (UCSF), Bernardo Sabatini, M.D., Ph.D. (Harvard), and Vijaya Ramesh, Ph.D. (Massachusetts General Hospital). Elizabeth Thiele, M.D., Ph.D. (Massachusetts General Hospital) provided an excellent overview of the presentations, as well as a summary of the areas of translational research currently relevant to research on TSC.

Story Landis, Ph.D. (Director, NINDS, NIH) and Robert Finkelstein, Ph.D. (Program Director, NINDS, NIH) also attended the meeting and provided thoughtful suggestions and comments on the future directions of TSC research.

CLINICAL TRIALS/STUDIES:

TS ALLIANCE AND LAM FOUNDTION: RAPAMYCIN CLINICAL TRIAL FOR RENAL AND LUNG INVOLVEMENT IN TSC AND LAM

Patients with TSC and/or LAM are being enrolled in a clinical trial to study the effect of rapamycin on tumor growth in these two diseases. **Contact:** Dr. Frank McCormack at frank.mccormack@uc.edu; or 513-558-4831, Dr. John Bissler at john.bissler@chmcc.org, or Dr. David Franz at david.franz@chmcc.org.

NHLBI: LYMPHANGIOLEIOMYOMATOSIS (LAM) PROTOCOL

The Tuberous Sclerosis Alliance encourages women with TSC and physicians who have patients with TSC, whether or not they have been diagnosed with LAM, to participate in this worthwhile study. Studies such as this are the first step in understanding this devastating disease and we are fortunate that the NHLBI has initiated a protocol aimed at understanding the pathogenesis of LAM. If you are interested in further information or have any questions, you may contact NHLBI at 1-877-NIH-LUNG (1-877-644-5864). Choose # 3 from the menu items after dialing. This is a toll free number.

NEW TSC PUBLICATIONS:

RESEARCH HIGHLIGHTS:

Govindarajan B, Mizesko MC, Miller MS, Onda H, Nunnally M, Casper K, Brat D, Cohen C, Arbiser JL (2003) **Tuberous sclerosis-associated neoplasms express activated p42/44 mitogen-activated protein (MAP) kinase, and inhibition of MAP kinase signaling results in decreased in vivo tumor growth.** Clin Cancer Res 9(9):3469-75

Summary: To determine whether mitogen-activated protein (MAP) kinase signaling plays a role in the pathogenesis of TS, Dr. Arbiser and his colleagues stained human TS-associated neoplasms with antibodies directed against activated MAP kinase, and observed high-level expression. They also established a murine model of TS-associated neoplasia (Tsc2Ang1 cells) from a tumor arising in a mouse heterozygous for tuberlin to determine if tuberlin is involved in tumor development in an animal model of TSC. Tsc2Ang1 cells demonstrate tumorigenesis in vivo and high-level expression of activated MAP kinase in vitro. The functionality of MAP kinase signaling was assessed by inactivating MAP kinase using a dominant-negative MAP kinase in tsc2ang1 cells and assessing the effect of this intervention on in vivo tumorigenicity and production of the potent angiogenic factor vascular endothelial growth factor (VEGF). Human TS-related neoplasms demonstrate high-level expression of activated MAP kinase, as does a tumor arising in a mouse heterozygous for tuberlin. The inhibition of MAP kinase signaling by the introduction of a dominant-negative MAP kinase kinase leads to the inhibition of tumor growth in vivo and decreased production of VEGF. In conclusion, MAP kinase is activated in TS-related neoplasia in mice and humans. Inhibition of MAP kinase leads to decreased tumor growth in vivo. Pharmacological inhibition of MAP kinase may be a therapeutic target in the prevention and treatment of TS-related tumors.

Jansen FE, Braun KP, Van Nieuwenhuizen O, Huiskamp G, Vincken KL, Van Huffelen AC, Van Der Grond J (2003) **Diffusion-weighted magnetic resonance imaging and identification of the epileptogenic tuber in patients with tuberous sclerosis.** Arch Neurol 60(11):1580-4

Patients with tuberous sclerosis complex and drug-resistant epilepsy may be considered candidates for epilepsy surgery. This demands the unambiguous demonstration of the epileptogenicity of one of the tubers. The purpose of this study was to test whether diffusion-weighted magnetic resonance imaging enables differentiation of epileptogenic tubers from inert ones. In 4 patients with clear unifocal interictal spike activity, fluid-attenuated inversion recovery and diffusion-weighted magnetic resonance imaging were performed. Apparent diffusion coefficient maps were calculated in the identified epileptogenic tuber and compared with those in nonepileptogenic tubers and regions of normal-appearing cortex. A significant increase in the apparent diffusion coefficient was found in the epileptogenic tubers. Furthermore, the apparent diffusion coefficient of the nonepileptogenic tubers was significantly higher than the trace apparent diffusion coefficient of regions of normal-appearing cortex. In conclusion, diffusion-weighted magnetic resonance imaging may be of clinical importance for the identification of epileptogenic tubers in patients with tuberous sclerosis and intractable epilepsy.

NEW PUBLICATIONS:

Abraham RT (2004) mTOR as a positive regulator of tumor cell responses to hypoxia. Curr Top Microbiol Immunol 279:299-319

Ali M, Girimaji SC, Kumar A (2003) Identification of a core promoter and a novel isoform of the human TSC1 gene transcript and structural comparison with mouse homolog. Gene 320:145-54

Bader RS, Chitayat D, Kelly E, Ryan G, Smallhorn JF, Toi A, Hornberger LK (2003) Fetal rhabdomyoma: Prenatal diagnosis, clinical outcome, and incidence of associated tuberous sclerosis complex. J Pediatr 143(5):620-624

Chen CH, Tzeng CC, Cheng TC, Chiu AW (2003) Angiomyolipoma of kidney as a part of tuberous sclerosis complex. J Postgrad Med 49(3):278-9

Chen J (2004) Novel regulatory mechanisms of mTOR signaling. Curr Top Microbiol Immunol 279:245-57

Davies CC, Mason J, Wakelam MJ, Young LS, Eliopoulos AG (2003) Inhibition of PI3K and ERK MAPK-regulated protein synthesis reveals the pro-apoptotic properties of CD40 ligation in carcinoma cells. J Biol Chem 2003 Oct 27 [Epub ahead of print]

D'Incerti L (2003) Morphological neuroimaging of malformations of cortical development. Epileptic Disord 5 Suppl 2:S59-66

Drenan RM, Liu X, Bertram PG, Zheng XF (2003) FRAP/mTOR localization in the ER and the Golgi apparatus. J Biol Chem 2003 Oct 24 [Epub ahead of print]

Dufour EM, Nandrot E, Marchant D, Van Den Berghe L, Gadin S, Issilame M, Dufier JL, Marsac C, Carper D, Menasche M, Abitbol M (2003) Identification of novel genes and altered signaling pathways in the retinal pigment epithelium during the Royal College of Surgeons rat retinal degeneration. Neurobiol Dis 14(2):166-80

Fatihi el M, Khanfri N, Niang A, Ghafel C, Hachim K, Zahiri K, Benghanem MG, Ramdani B, Zaid D (2003) Renal manifestations of tuberous sclerosis complex. *Ann Med Interne (Paris)* 154(4):255-8

Gao N, Zhang Z, Jiang BH, Shi X (2003) Role of PI3K/AKT/mTOR signaling in the cell cycle progression of human prostate cancer. *Biochem Biophys Res Commun* 310(4):1124-32

Gera JF, Mellinghoff IK, Shi Y, Rettig MB, Tran C, Hsu JH, Sawyers CL, Lichtenstein AK (2003) AKT activity determines sensitivity to mTOR inhibitors by regulating cyclin D1 and c-myc expression. *J Biol Chem* 2003 Oct 23 [Epub ahead of print]

Gingras AC, Raught B, Sonenberg N (2004) mTOR signaling to translation. *Curr Top Microbiol Immunol* 279:169-97

Govindarajan B, Mizesko MC, Miller MS, Onda H, Nunnally M, Casper K, Brat D, Cohen C, Arbiser JL (2003) Tuberous sclerosis-associated neoplasms express activated p42/44 mitogen-activated protein (MAP) kinase, and inhibition of MAP kinase signaling results in decreased in vivo tumor growth. *Clin Cancer Res* 9(9):3469-75

Gual P, Gremeaux T, Gonzalez T, Le Marchand-Brustel Y, Tanti JF (2003) MAP kinases and mTOR mediate insulin-induced phosphorylation of Insulin Receptor Substrate-1 on serine residues 307, 612 and 632. *Diabetologia* 2003 Oct 25 [Epub ahead of print]

Guerrini R, Sicca F, Parmeggiani L (2003) Epilepsy and malformations of the cerebral cortex. *Epileptic Disord* 5 Suppl 2:S9-S26

Hannan KM, Brandenburger Y, Jenkins A, Sharkey K, Cavanaugh A, Rothblum L, Moss T, Poortinga G, McArthur GA, Pearson RB, Hannan RD (2003) mTOR-Dependent Regulation of Ribosomal Gene Transcription Requires S6K1 and Is Mediated by Phosphorylation of the Carboxy-Terminal Activation Domain of the Nucleolar Transcription Factor UBF dagger. *Mol Cell Biol* 23(23):8862-8877

Hengstschlager M, Rosner M (2003) The cell cycle and tuberous sclerosis. *Prog Cell Cycle Res* 5:43-8

Houghton PJ, Huang S (2004) mTOR as a target for cancer therapy. *Curr Top Microbiol Immunol* 279:339-59

Jaeschke A, Dennis PB, Thomas G (2004) mTOR: a mediator of intracellular homeostasis. *Curr Top Microbiol Immunol* 279:283-98

Jansen FE, Braun KP, Van Nieuwenhuizen O, Huiskamp G, Vincken KL, Van Huffelen AC, Van Der Grond J (2003) Diffusion-weighted magnetic resonance imaging and identification of the epileptogenic tuber in patients with tuberous sclerosis. *Arch Neurol* 60(11):1580-4

Kanazawa T, Taneike I, Akaishi R, Yoshizawa F, Furuya N, Fujimura S, Kadowaki M (2003) Amino acids and insulin control autophagic proteolysis through different signaling pathways in relation to mTOR in isolated rat hepatocytes. *J Biol Chem* 2003 Nov 10 [Epub ahead of print]

Kim DH, Sabatini DM (2004) Raptor and mTOR: subunits of a nutrient-sensitive complex. *Curr Top Microbiol Immunol* 279:259-70

- Kishi K, Homma S, Sakamoto S, Kawabata M, Tsuboi E, Narui K, Yoshimura K, Nakata K (2003) [High efficacy of pleurodesis using OK-432 for controlling intractable pneumothorax associated with pulmonary lymphangiomyomatosis.] *Nihon Kokyuki Gakkai Zasshi* 41(10):704-7 [Article in Japanese]
- Kwiatkowski DJ (2003) Rhebbing up mTOR: New Insights on TSC1 and TSC2, and the Pathogenesis of Tuberous Sclerosis. *Cancer Biol Ther* 2(5):471-476
- Kwon CH, Zhu X, Zhang J, Baker SJ (2003) mTor is required for hypertrophy of Pten-deficient neuronal soma in vivo. *Proc Natl Acad Sci U S A* 100(22):12923-8. Epub 2003 Oct 08
- Lamar M, Jackson WT (1999) OCD and atypical Autism in a young man with tuberous sclerosis. *Arch Clin Neuropsychol* 14(8):671
- Lawrence JC, Lin TA, McMahon LP, Choi KM (2004) Modulation of the protein kinase activity of mTOR. *Curr Top Microbiol Immunol* 279:199-213
- Lin WY, Chuang CK, Ng KF, Liao SK (2003) Renal angiomyolipoma with lymph node involvement: a case report and literature review. *Chang Gung Med J* 26(8):607-10
- Llarena Ibarguren R, Eizaguirre Zarzai B, Lecumberri Castanos D, Padilla Nieva J, Crespo Atin V, Martin Bazaco J, Azurmendi Sastre V, Pertusa Pena C (2003) [Bilateral renal solitary fibrous tumor in TSC.] *Arch Esp Urol* 56(7):835-40 [Article in Spanish]
- Lonergan GJ, Smirniotopoulos JG (2003) Case 64: tuberous sclerosis. *Radiology* 229(2):385-8
- Manning BD, Cantley LC (2003) Rheb fills a GAP between TSC and TOR. *Trends Biochem Sci* 28(11):573-6
- Marshall FF (2003) Tuberous sclerosis-associated lesions of the kidney, brain, and skin are angiogenic neoplasms. *J Urol* 170(2 Pt 1):695 Comment on: [J Am Acad Dermatol. 2002 Mar;46\(3\):376-80.](#)
- Martin KA, Rzcudlo EM, Merenick BL, Fingar DC, Brown DJ, Wagner RJ, Powell RJ (2003) The mTOR / p70 S6K1 pathway regulates vascular smooth muscle cell differentiation. *Am J Physiol Cell Physiol* 2003 Oct 30 [Epub ahead of print]
- Nabi G, Greene D, Marsh R, Viljoen A (2002-2003) A rare co-existence of focal xanthogranulomatous pyelonephritis, angiomyolipoma and renal cysts simulating renal cell carcinoma. *Int Urol Nephrol* 34(4):465-6
- Neufeld TP (2004) Genetic analysis of TOR signaling in *Drosophila*. *Curr Top Microbiol Immunol* 279:139-52
- Patel SK, Ma N, Monks TJ, Lau SS (2003) Changes in gene expression during chemical-induced nephrocarcinogenicity in the Eker rat. *Mol Carcinog* 38(3):141-54
- Proud CG (2004) Role of mTOR signalling in the control of translation initiation and elongation by nutrients. *Curr Top Microbiol Immunol* 279:215-44

- Razeghi P, Sharma S, Ying J, Li YP, Stepkowski S, Reid MB, Taegtmeyer H (2003) Atrophic Remodeling of the Heart In Vivo Simultaneously Activates Pathways of Protein Synthesis and Degradation. *Circulation* 2003 Nov 10 [Epub ahead of print]
- Sarnat HB, Flores-Sarnat L (2003) Etiological classification of CNS malformations: integration of molecular genetic and morphological criteria. *Epileptic Disord* 5 Suppl 2:S35-43
- Sedky K, Hughes T, Yusufzie K, Lippmann S (2003) Tuberous sclerosis with psychosis. *Psychosomatics* 44(6):521-2
- Stein MP, Dong J, Wandinger-Ness A (2003) Rab proteins and endocytic trafficking: potential targets for therapeutic intervention. *Adv Drug Deliv Rev* 55(11):1421-37
- Tirado OM, Mateo-Lozano S, Sanders S, Dettin LE, Notario V (2003) The PCPH oncoprotein antagonizes the proapoptotic role of the mammalian target of rapamycin in the response of normal fibroblasts to ionizing radiation. *Cancer Res* 63(19):6290-8
- Vitari AC, Deak M, Collins BJ, Morrice N, Prescott AR, Phelan A, Humphreys S, Alessi DR (2003) WNK1, the kinase mutated in an inherited high blood pressure syndrome, is a novel PKB/Akt substrate. *Biochem J* [Epub ahead of print]
- Whale CI, Johnson SR, Phillips KG, Newton SA, Lewis SA, Tattersfield AE (2003) Lymphangioliomyomatosis: a case-control study of perinatal and early life events. *Thorax* 58(11):979-82
- Wockel W, Morresi-Hauf A (2003) [Micronodular pneumocyte hyperplasia in pulmonary lymphangioliomyomatosis and tuberous sclerosis.] *Pneumologie* 57(11):662-6 [Article in German]
- Yamakawa T, Tanaka S, Kamei J, Kadonosono K, Okuda K (2003) Phosphatidylinositol 3-kinase in angiotensin II-induced hypertrophy of vascular smooth muscle cells. *Eur J Pharmacol* 478(1):39-46
- Yonezawa K, Yoshino KI, Tokunaga C, Hara K (2004) Kinase activities associated with mTOR. *Curr Top Microbiol Immunol* 279:271-82
- Yoon HS, Ramachandiran S, Chacko MA, Monks TJ, Lau SS (2003) The Tuberous Sclerosis-2 Tumor Suppressor Modulates ERK and B-Raf Activity in Transformed Renal Epithelial Cells. *Am J Physiol Renal Physiol*. 2003 Nov 11 [Epub ahead of print]
- Zhou G, Hashimoto Y, Kwak I, Tsai SY, Tsai MJ (2003) Role of the steroid receptor coactivator SRC-3 in cell growth. *Mol Cell Biol* 23(21):7742-55
- Zupanc ML (2003) Infantile spasms. *Expert Opin Pharmacother* 4(11):2039-48

CONFERENCES:

For a complete listing of conferences, visit the TS Alliance website at:
<http://216.33.101.121/Research/upcoming%20conferences.asp>

December 4, 2003

**International Symposium on Tuberous Sclerosis
Genetic, Behavioural and Surgical Aspects**

Montreal Neurological Institute & Hospital, McGill University, Montreal, Canada

More information: www.mni.mcgill.ca/announce/Inttuberoussclerosis.htm

December 5-10, 2003

American Epilepsy Society Annual Meeting

Hynes Convention Center, Boston, MA

http://www.aesnet.org/events/ann_mtg.cfm

February 20 – 22, 2004

**THE 1ST PAN AFRICAN & PAN ARAB INTERNATIONAL PEDIATRIC EPILEPSY
CONFERENCE**

Cairo Sheraton, Egypt

Organized by: The Egyptian Neuropediatric Society ENPS, The Egyptian Epilepsy Society (Chapter of The International League Against Epilepsy ILAE), The American Epilepsy Society

The themes of the conference will be:

1. Advances in pediatric epilepsy genetics
2. Pediatric epilepsy in developing countries
3. New management modalities in pediatric epilepsy
4. Developmental and learning issues in pediatric epilepsy
5. Update on classification and terminology of childhood epileptic syndromes

Online registration on the conference website:

www.enps-eg.com/Conference/Conferencehome.htm

March 26-28, 2004

LAM Foundation Research Conference

Westin, Downtown Cincinnati, OH

Deadline for submission of abstracts: January 5, 2004

<http://lam.uc.edu/html/abstract.html>

March 29-30, 2004

**Frontiers of Knowledge in Sleep & Sleep Disorders: Opportunities for Improving
Health and Quality of Life**

National Institutes of Health, Bethesda, MD

Additional information and ONLINE REGISTRATION is accessible at

<http://www.sleeptranslation.com>

You can also contact the National Center on Sleep Disorders Research at 301-435-0199 for additional information, and can learn more about sleep and sleep disorders at

<http://www.nhlbi.nih.gov/sleep>

July 10-14, 2004

4th Forum of European Neuroscience

Lisbon Congress Center, Lisbon, Portugal

Deadline for submission of abstracts: January 31, 2004

<http://www.fens2004.org>

September 16-18, 2004

TSC International Research Conference 2004

TSC Genes - Function and Dysfunction - From Molecular Biology to Therapeutic Advances

Organized by the Tuberous Sclerosis Association of Great Britain

Queens' College, University of Cambridge, Cambridge UK

Call for Abstracts will be circulated in early 2004

For any queries please contact Ann Hunt at: research@tuberous-sclerosis.org

or telephone/fax: 44 (0)1993 881238

October 5-9, 2004

2nd Santa Lucia Conference: The Human Brain – Modelling and Remodelling

Rome, Italy

<http://www.thehumanbrain.org>

ARCHIVED ISSUES OF TSC ALERT:

December 2002 TSC Alert

<http://www.tsalliance.org/research/tsc%20alert.asp>

January 2003 TSC Alert

<http://www.tsalliance.org/Research/TSC%20Alert012203.asp>

February 2003 TSC Alert

<http://www.tsalliance.org/Research/TSC%20Alert021003.asp>

March 2003 TSC Alert

<http://www.tsalliance.org/Research/TSC%20Alert030403.asp>

April 2003 TSC Alert

<http://www.tsalliance.org/Research/TSC%20Alert040103.asp>

May 2003 TSC Alert

<http://www.tsalliance.org/Research/TSC%20Alertdefault.asp>

June 2003 TSC Alert

<http://www.tsalliance.org/Research/TSC%20Alert060103.asp>

July 2003 TSC Alert

<http://www.tsalliance.org/Research/TSC%20Alertdefault.asp>

August 2003 TSC Alert

<http://www.tsalliance.org/Research/TSC%20Alertdefault.asp>

September 2003 TSC Alert – Coming Soon!

October 2003 TSC Alert – Coming Soon!