



## ***TSC ALERT***

Edited by Vicky H Whittemore, PhD

### **September 2005**

Welcome to the September 2005 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 October 2005 *TSC Alert* contact: [ywhittemore@tsalliance.org](mailto:ywhittemore@tsalliance.org)

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### **GRANT ANNOUNCEMENTS**

#### **NIH TUBEROUS SCLEROSIS COMPLEX PROGRAM ANNOUNCEMENT**

The TS Alliance is pleased to announce the release of the National Institutes of Health (NIH) Program Announcement with set-aside funds (PAS) entitled "**Understanding and Treating Tuberous Sclerosis Complex.**" This is a joint Program Announcement with NIH and the TS Alliance. The participating organizations intend to commit a total of approximately \$2 million to this PAS in addition to funds available for applications sent in response to this initiative that score within the pay lines of the participating NIH Institutes (NINDS, NIDDK, NIMH, NIAMS and NCI). For more information and the complete text of the Program Announcement see: <http://grants.nih.gov/grants/guide/pa-files/PAS-05-085.html>

## **PARENTS AGAINST CHILDHOOD EPILEPSY, INC. (PACE)**

**Deadline: September 15, 2005**

PACE will consider grant applications for innovative research to encourage investigation into the causes and cures of seizure disorders in children. The primary areas of research they are interested in stimulating are:

- Innovative pediatric models of epilepsy
- Electrophysiologic recording on live human tissue from epilepsy surgery
- Evaluation of neocortical epilepsies
- The role of immune or inflammatory mediators in epilepsy
- Neuro immunological effects of inflammatory molecules with the emphasis on dietary pathogens
- Other innovative proposals that fall outside the above areas that address pediatric epilepsy will be considered, including quality of life.

Send for the two page screening application and file the application by September 15, 2005

For more information: [www.paceusa.org](http://www.paceusa.org)

E-mail: [pacenyemail@aol.com](mailto:pacenyemail@aol.com)

Phone: 212-665-PACE (7223)

FAX: 212-327-3075

## **NEW EARLY CAREER PHYSICIAN SCIENTIST AWARD PROGRAM**

**Deadline: September 15, 2005**

The American Epilepsy Society (AES) and the Milken Family Foundation announce a new funding mechanism for physician scientists who are embarking on academic careers and wish to develop outstanding epilepsy research programs. Funded by the Milken Family Foundation and administered by AES, this new program seeks to encourage the development of new therapies for epilepsy by providing research training for physicians early in their academic career.

Applications must be received by September 15, 2005. Awardees will be announced and funding will be distributed at the AES Annual Meeting in December 2005 in Washington, DC.

Funding Available: Awards will be made in the amount of \$50,000. Competitive renewals for a second year of funding will be considered.

For more information: <http://www.aesnet.org>

## **AMERICAN SKIN ASSOCIATION**

**Deadline: October 3, 2005**

The following grants are available from the American Skin Association:

- Research Scholar Award - \$50,000
- Research Grants – supports research on five (5) skin disorders: skin cancer, melanoma, vitiligo/pigment cell biology, childhood skin diseases/disfigurement, and autoimmune/inflammatory skin diseases: \$15,000
- Health Services/Quality of Life/Outcome Studies - \$15,000
- Medical Student Grants – targeting melanoma/skin cancer - \$7,000

For more information, contact the American Skin Association at:

346 Park Ave South, 4<sup>th</sup> Fl.

New York, NY 10010

Phone: (212)889-4858 or 1-800-499 SKIN (7546)

FAX: (212)889-4959  
E-mail: [info@americanskin.org](mailto:info@americanskin.org)  
Web site: [www.americanskin.org](http://www.americanskin.org)

### **NEW THERAPY GRANTS PROGRAM**

**Deadline: October 1, 2005**

The Epilepsy Research Foundation, a partnership between the Epilepsy Therapy Development Project (formerly The Epilepsy Project) ([www.epilepsyproject.org](http://www.epilepsyproject.org)), the Epilepsy Foundation ([www.efa.org](http://www.efa.org)) and Finding a Cure for Epilepsy and Seizures (FACES) ([www.nyufaces.org](http://www.nyufaces.org)), is requesting proposals for its New Therapy Grants Program. The program seeks to bring new therapies to patients by supporting translational research and early stage commercialization. The Epilepsy Research Foundation is providing grants to scientific and clinical investigators who are pursuing innovative, high impact projects that demonstrate a clear path to commercialization from the lab to the patient. Proposals including matched funding from commercial partners will be given a preference. We anticipate awarding grants of \$100,000 on average although larger grants and multi-year grants will be considered. For examples of previously funded proposals please see: [www.epilepsyproject.org/sec/funds\\_awarded](http://www.epilepsyproject.org/sec/funds_awarded)

To view the grant proposal requirements please visit: [www.epilepsyproject.org/grants](http://www.epilepsyproject.org/grants)  
For more information, please contact [kim@epilepsyproject.org](mailto:kim@epilepsyproject.org).

### **MILKEN FAMILY FOUNDATION TRANSLATIONAL RESEARCH AWARD**

**Deadline: October 1, 2005**

The Milken Family Foundation ([www.mff.org](http://www.mff.org)), is requesting proposals for its Translational Research Award program. The purpose of this program is to advance the development of novel therapies for the treatment of epilepsy. Two grants in the amount of \$50,000 each will be awarded.

To view the grant proposal requirements please visit: [www.epilepsyproject.org/grants](http://www.epilepsyproject.org/grants)  
For more information, please contact [kim@epilepsyproject.org](mailto:kim@epilepsyproject.org).

### **ADMINISTRATIVE SUPPLEMENTS FOR A DRUG SCREENING PROGRAM FOR DIABETIC COMPLICATIONS (NOT-DK-05-017)**

National Institute of Diabetes and Digestive and Kidney Diseases

National Cancer Institute

National Eye Institute

National Heart, Lung, and Blood Institute

National Institute of Neurological Disorders and Stroke

<http://grants.nih.gov/grants/guide/notice-files/NOT-DK-05-017.html>

### **ANIMAL MODELS OF DIABETIC COMPLICATIONS CONSORTIUM (RFA-DK-05-011)**

National Institute of Diabetes and Digestive and Kidney Diseases

National Heart, Lung, and Blood Institute

National Institute of Neurological Disorders and Stroke

Application Receipt Date(s): November 18, 2005

<http://grants.nih.gov/grants/guide/rfa-files/RFA-DK-05-011.html>

**NINDS GUIDELINES FOR ENROLLMENT OF SUBJECTS INTO NINDS-FUNDED CLINICAL TRIALS (NOT-NS-05-010)**

National Institute of Neurological Disorders and Stroke

<http://grants.nih.gov/grants/guide/notice-files/NOT-NS-05-010.html>

**NEW WAYS TO IMAGE NEURAL ACTIVITY (RFA-EB-05-001)**

NIH Blueprint for Neuroscience Research

Application Receipt Date(s): October 25, 2005

<http://grants.nih.gov/grants/guide/rfa-files/RFA-EB-05-001.html>

**REQUEST FOR INFORMATION (RFI): PROCUREMENT OF KNOCKOUT MICE FOR NEUROSCIENCE RESEARCH (NOT-MH-05-016)**

National Institute of Mental Health <http://grants.nih.gov/grants/guide/notice-files/NOT-MH-05-016.html>

**NOTICE OF INTENT TO PUBLISH FOUR REQUESTS FOR APPLICATIONS (RFAs) FOR KNOCKOUT MOUSE PROJECT (KOMP) (NOT-OD-05-063)**

National Institutes of Health

<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-05-063.html>

**INTENTION TO RE-ISSUE NIH ROADMAP RFA, "TRAINING FOR A NEW INTERDISCIPLINARY RESEARCH WORKFORCE" (NOT-RM-05-012)**

NIH Roadmap Initiatives

<http://grants.nih.gov/grants/guide/notice-files/NOT-RM-05-012.html>

**OUTSTANDING NEW ENVIRONMENTAL SCIENTIST AWARD (ONES) (RFA-ES-05-005)**

National Institute of Environmental Health Sciences

Application Receipt Date(s): December 21, 2005

<http://grants.nih.gov/grants/guide/rfa-files/RFA-ES-05-005.html>

**SHORT COURSES ON APPLICATION OF GENOMICS AND PROTEOMICS TO COMPLEX HEART, LUNG, BLOOD, AND SLEEP DISORDERS (RFA-HL-05-012)**

National Heart, Lung, and Blood Institute

Application Receipt Date(s): January 17, 2006

<http://grants.nih.gov/grants/guide/rfa-files/RFA-HL-05-012.html>

**RUTH L. KIRSCHSTEIN NATIONAL RESEARCH SERVICE AWARDS FOR INDIVIDUAL PREDOCTORAL MD/PhD FELLOWS (F30) (PA-05-151)**

National Institutes of Health

National Institute on Aging

National Institute on Alcohol Abuse and Alcoholism

National Institute on Drug Abuse

National Institute on Deafness and Other Communication Disorders

National Institute of Environmental Health Sciences

National Institute of Mental Health

National Institute of Neurological Disorders and Stroke

Office of Dietary Supplements

Application Receipt Date(s): Multiple dates, see announcement.

<http://grants.nih.gov/grants/guide/pa-files/PA-05-151.html>

**CAM AT MINORITY OR HEALTH DISPARITIES RESEARCH CENTERS (PAR-05-152)**

National Center for Complementary and Alternative Medicine

National Cancer Institute

National Center for Minority Health and Health Disparities

Application Receipt Date(s): November 14, 2005, 2006, and 2007

<http://grants.nih.gov/grants/guide/pa-files/PAR-05-152.html>

**NIMH RESEARCH EDUCATION GRANTS (R25) (PAR-05-153)**

National Institute of Mental Health

Application Receipt Date(s): October 1 annually for new applications;

November 1 annually for revised and competing renewal applications;

January 2 annually for AIDS related applications

<http://grants.nih.gov/grants/guide/pa-files/PAR-05-153.html>

**NIH LOAN REPAYMENT PROGRAM**

**Deadline: December 1, 2005**

Starting Thursday, September 1, 2005, the National Institutes of Health (NIH) will begin accepting applications for its five Loan Repayment Programs (LRPs).

The five LRPs offered by the NIH include the Clinical Research LRP, Clinical Research LRP for Individuals from Disadvantaged Backgrounds, Contraception and Infertility Research LRP, Health Disparities LRP, and Pediatric Research LRP.

Through these programs, the NIH offers to repay up to \$35,000 annually of the qualified educational debt of health professionals pursuing careers in biomedical and behavioral research. The programs also provide coverage for Federal and state tax liabilities.

To qualify, applicants must possess a doctoral-level degree, devote 50% or more of their time (20 hours per week based on a 40-hour work week) to research funded by a domestic non-profit organization or government entity (Federal, state, or local), and have educational loan debt equal to or exceeding 20% of their institutional base salary. Applicants must also be U.S. citizens, permanent residents, or U.S. nationals to be eligible.

Please share this e-mail with the researchers and other individuals in your organization who may benefit from LRP participation.

All applications for 2006 awards must be submitted online by 8:00 p.m. EST, December 1, 2005.

For an online application, program information, or other assistance, visit the LRP Web site at [www.lrp.nih.gov](http://www.lrp.nih.gov), telephone the Helpline at 866-849-4047, or send email inquiries to [lrp@nih.gov](mailto:lrp@nih.gov)

## NEW TSC PUBLICATIONS

Adamsbaum C, Merzoug V, Kalifa G (2005) Imaging of CNS manifestations of tuberous sclerosis in children.] *J Neuroradiol* 32(3):204-9 [Article in French]

Bierer S, Wulfing C, Bode ME, Puhse G, Brinkman OA, Hertle L (2005) [Bilateral renal angiomyolipomas with a thrombus in the inferior caval vein Rare growth pattern of a benign tumor.] *Urologe A* 2005 Aug 19 [Epub ahead of print] [Article in German]

Boehler A (2001) Lung transplantation for cystic lung diseases: lymphangiomyomatosis, histiocytosis x, and sarcoidosis. *Semin Respir Crit Care Med* 22(5):509-16

Chan S, Chan W (2005) Huge renal angiomyolipomas in tuberous sclerosis complex. *Nephrology (Carlton)* 10(4):382-6

Hengstschlager M, Rosner M, Fountoulakis M, Lubec G (2005) The cellular response to ectopic overexpression of the tuberous sclerosis genes, TSC1 and TSC2: a proteomic approach. *Int J Oncol* 27(3):831-8

Hirakubo Y, Ichihashi K, Shiraishi H, Momoi MY (2005) Ventricular Tachycardia in a Neonate with Prenatally Diagnosed Cardiac Tumors: A Case with Tuberous Sclerosis. *Pediatr Cardiol* 2005 Sep 1 [Epub ahead of print]

Johnson SR, Tattersfield AE (2002) Lymphangiomyomatosis. *Semin Respir Crit Care Med* 23(2):85-92

Jones J, Brenner C, Chinn R, Bunker CB (2005) Radiological associations with dermatological disease. *Br J Radiol* 78(931):662-71

Jozwiak J, Jozwiak S (2005) Giant cells: contradiction to two-hit model of tuber formation? *Cell Mol Neurobiol* 25(5):795-806

Jozwiak J, Jozwiak S, Skopinski P (2005) Immunohistochemical and microscopic studies on giant cells in tuberous sclerosis. *Histol Histopathol* 20(4):1321-6

Kelekci S, Yazicioglu HF, Yilmaz B, Aygun M, Omeroglu RE (2005) Cardiac rhabdomyoma with tuberous sclerosis: a case report. *J Reprod Med* 50(7):550-2

Kirkegaard T, Witton CJ, McGlynn LM, Tovey SM, Dunne B, Lyon A, Bartlett JM (2005) AKT activation predicts outcome in breast cancer patients treated with tamoxifen. *J Pathol* [Epub ahead of print]

Li S, Takeuchi F, Wang JA, Fuller C, Pacheco-Rodriguez G, Moss J, Darling TN (2005) MCP-1 overexpressed in tuberous sclerosis lesions acts as a paracrine factor for tumor development. *J Exp Med* 2005 Aug 29 [Epub ahead of print]

Morgensztern D, McLeod HL (2005) PI3K/Akt/mTOR pathway as a target for cancer therapy. *Anticancer Drugs* 16(8):797-803

Rendtorff ND, Bjerregaard B, Frodin M, Kjaergaard S, Hove H, Skovby F, Brondum-Nielsen K, Schwartz M (2005) Analysis of 65 tuberous sclerosis complex (TSC) patients by TSC2 DGGE, TSC1/TSC2 MLPA, and TSC1 long-range PCR sequencing, and report of 28 novel mutations. *Hum*

Mutat. 2005 Aug 19; [Epub ahead of print]

Rudzki Z, Wilk W, Smigielski M (2005) Splenic tumors in an adult with tuberous sclerosis: the giant "histiocytoid" cells are dysplastic histiocytes. *Virchows Arch* 2005 Aug 25 [Epub ahead of print]

Sakuma H, Iwata O, Sasaki M (2005) Longitudinal MR findings in a patient with hemimegalencephaly associated with tuberous sclerosis. *Brain Dev* 27(6):458-61 Epub 2005 Jan 8

Sharma MS, Suri A, Shah T, Ralte A, Sarkar C, Gupta V, Mehta VS (2005) Intraventricular glioneuronal hamartoma: histopathological correlation with magnetic. *J Neurooncol* 2005 Aug 1 [Epub ahead of print]

Tee AR, Blenis J, Proud CG (2005) Analysis of mTOR signaling by the small G-proteins, Rheb and RhebL1. *FEBS Lett* 2005 Aug 10 [Epub ahead of print]

Thomas C, Bizieux-Thaminy A, Gagnadoux F, Gourdier AL, Urban T, Racineux JL (2005) [An unusual cause of pulmonary cysts.] *Rev Mal Respir* 22(2 Pt 1):313-6 [Article in French]

Van Slegtenhorst M, Mustafa A, Henske EP (2005) Pas1, a G1 cyclin, regulates amino acid uptake and rescues a delay in G1 arrest in Tsc1 and Tsc2 mutants in *Schizosaccharomyces pombe*. *Hum Mol Genet* 2005 Aug 22 [Epub ahead of print]

Vinaitheerthan M, Wei J, Mizuguchi M, Greco A, Barness EG (2004) Tuberous sclerosis: immunohistochemistry expression of tuberin and hamartin in a 31-week gestational fetus. *Fetal Pediatr Pathol* 23(4):241-9

Wei JJ, Chiriboga L, Mittal K (2005) Expression profile of the tumorigenic factors associated with tumor size and sex steroid hormone status in uterine leiomyomata. *Fertil Steril* 84(2):474-84

Wenaden AE, Copley SJ (2005) Unilateral lymphangi leiomyomatosis. *J Thorac Imaging* 20(3):226-8

Wilker E, Lu J, Rho O, Carbajal S, Beltran L, Digiovanni J (2005) Role of PI3K/Akt signaling in insulin-like growth factor-1 (IGF-1) skin tumor promotion. *Mol Carcinog* 2005 Aug 5 [Epub ahead of print]

Wolkenstein P (2005) [Neurofibromatosis and tuberous sclerosis] *J Neuroradiol* 32(3):174-9 [Article in French]

Yonezawa K (2005) [Rapamycin.] *Nippon Rinsho*. 2005 May;63 Suppl 5:718-22. [Article in Japanese]

## NEW TSC RESOURCES

### TISSUE RESOURCES AVAILABLE

Individuals have recently donated the following tissues with TSC to the Brain and Tissue Bank at the University of Maryland for research. Contact the Bank for additional resources and to obtain tissue for your research at: [www.btbank.org](http://www.btbank.org) or [btbumcb@umaryland.edu](mailto:btbumcb@umaryland.edu) or 1-800-847-1539.

TSC tissues recently donated for research:

- Skin & muscle
- Brain tumor
- Brain/cortical tuber
- Kidney
- Lung

## CONFERENCES

### September 26-27, 2005

#### Access to Quality Testing for Rare Diseases: A National Conference

Doubletree Executive Meeting Center and Hotel

Rockville, MD

<http://rarediseases.info.nih.gov/QTRD/>

### September 29-30, 2005

#### Personalized Management of Neurological Diseases: A Multidisciplinary Conference

Marriott Hotel, Crystal City, VA

<http://www.aacc.org/meetings/neuro/>

### October 7-12, 2005

#### 4<sup>th</sup> World Congress of Cellular and Molecular Biology

Poitiers, France

<http://www.cmbworldcongress2005.com>

### October 14-18, 2005

#### World Congress on Psychiatric Genetics XIII: Advancing on the Pathway to Discovery

The Westin Copley Place, Boston, MA

<http://www.ispg.net>

### October 17-19, 2005

#### Genomes, Medicine and the Environment

Presented by the J. Craig Venter Institute

Hilton Head Marriott Beach and Golf Resort

Hilton Head, SC

For program and registration information, go to

<http://www.venterininstitute.org/gsaac/programandspeakers.php>

For general information on conference registration, exhibiting and sponsorship opportunities

contact Kris Robinson at [krobinson@venterscience.org](mailto:krobinson@venterscience.org) or (301)-529-5581

**October 18-23, 2005**

**American Academy of Child and Adolescent Psychiatry & Canadian Academy of Child and Adolescent Psychiatry: Joint Annual Meeting**

Sheraton Centre Toronto

Toronto, Canada

<http://www.aacap.org>

**October 25-29, 2005**

**American Society of Human Genetics**

Salt Lake City, UT

<http://genetics.faseb.org/genetics/ashg/menu-annmeet.shtml>

\*\*Visit the TS Alliance exhibit booth at ASHG meeting, and attend the symposium on Friday, October 28, 2005 that includes TSC!

**November 12-16, 2005**

**Society for Neuroscience**

Washington, DC Convention Center

Washington, DC

<http://web.sfn.org/am2005>

\*\*Visit the TS Alliance exhibit booth at the SFN meeting!

**December 2-6, 2005**

**American Epilepsy Society & American Clinical Neurophysiology Society**

Washington, DC Convention Center

Washington, DC

For more information: <http://www.aesnet.org>

**\*\*Come to the TSC SIG at this year's meeting on Saturday, December 3, 2006, and visit the TS Alliance exhibit!**

**May 3-5, 2006**

**TSC International Research Conference 2006**

Spandau, Ev. Johannesstift

Hotel "Christophorus Haus"

Berlin, Germany

<http://www.tsc2006.org>

**March 31 – April 2, 2006**

**LAM Foundation 2006 Research Conference**

Hilton Netherlands Cincinnati Hotel

Cincinnati, OH

<http://lam.uc.edu>

**July 2-6, 2006**

**7<sup>th</sup> European Congress of Epileptology**

Helsinki Fair Centre, Helsinki, Finland

<http://www.epilepsyhelsinki2006.org>

**SAVE THE DATE!**

**July 14-16, 2006**

**National TSC Conference**

Organized by the Tuberous Sclerosis Alliance

[Indian Lakes Resort](#)

Chicago, Illinois

<http://www.tsalliance.org>

**October 30 – November 2, 2006**

**World Congress on Autism**

Cape Town, South Africa

Call for Papers closes 30th September 2005

Early Bird Registration Closes June 30th 2006

Please visit [www.autismcongress.com](http://www.autismcongress.com)

**March 2007**

**NINDS Epilepsy Conference**

Follow-up to 2000 Conference "Curing Epilepsy: Focus on the Future"

<http://www.ninds.nih.gov>

## NEWS

**TS ALLIANCE ANNOUNCES ADDITIONAL GRANT AWARDS** The Tuberous Sclerosis Alliance announced four additional grant awards. These projects funded are:

**Joseph Bateman, Ph.D.**

King's College, London, UK

**Regulation of Neuronal Differentiation by TSC in Drosophila**

**Junior Investigator Award**

This research project will focus on how mutations in the TSC1 gene impact the development of neurons (brain cells) in the Drosophila (fruit fly). Recent evidence indicates that neurons develop more rapidly and lose their organization within the nervous system of the fruit fly in the presence of a mutation in the TSC1 gene, so Dr. Bateman will study how this mutation effects neuronal development. These findings may shed light on the cause of the brain abnormalities in individuals with TSC.

**Jixin Dong, Ph.D.**

**Sponsor: DJ Pan, Ph.D.**

Johns Hopkins University, Baltimore, MD

**Probing TSC1/TSC2 Protein Complex In Vivo**

**Postdoctoral Fellowship Award**

Dr. Dong will investigate how the proteins formed by the TSC1 and TSC2 genes, hamartin and tuberin, respectively, work together and are regulated by developmental and environmental cues in the Drosophila (fruit fly). These studies should provide novel insights into the causes of the manifestations of TSC, and will ultimately facilitate the manipulation of the proteins to develop new therapies.

**Do-Hyung Kim, Ph.D.**

University of Minnesota, Minneapolis, MN

**Molecular Dissection of the Rheb-mTOR Signaling Pathway Activated in Tuberous Sclerosis Complex**

**Junior Investigator Award**

Although the genetic variation in the TSC1 and TSC2 genes in individuals with TSC has been studied over the past few years, how the specific mutations in these genes lead to the manifestations of the disease is still not known. The role of the TSC genes is complex, so it is not surprising that it has been difficult to identify all of the missing components needed to understand TSC. Dr. Kim will focus his research on identifying the missing steps in the

interaction between the TSC genes and mTOR, and how this system can be regulated to treat individuals with TSC.

**Victoria Robb, Ph.D.**

Sponsor: Elizabeth Petri Henske, M.D.  
Fox Chase Cancer Center, Philadelphia, PA

**Is Activation of Rheb or Rheb-like Protein Sufficient for Tumorigenesis in TSC? Postdoctoral Fellowship Award**

The research supported by this Postdoctoral Fellowship Award to Dr. Robb will focus on the role of the TSC genes in cell growth, and how this function is changed in individuals with TSC.

Specifically, she will study the role in TSC of a newly identified protein, Rheb-like protein (RLP or Rheb2), and how changes in the function of the TSC genes relate to changes in the function of RLP resulting in the growth of tumors.

For a complete list of new TS Alliance grant awards, go to:

<http://www.tsalliance.org/pages.aspx?content=24>

**NIGMS FUNDS NEW STEM CELL CENTERS** Human embryonic stem cells have properties that make them uniquely valuable for studying virtually any cellular process. Despite their promise for research and therapeutic purposes, stem cells are difficult to grow in the laboratory and scientists do not know how to reliably direct them to become a specific cell type. To address these needs, NIGMS has funded three new Exploratory Centers for Human Embryonic Stem Cell Research. These centers, which will receive an estimated \$9 million over three years, join three others that the institute funded in September 2003. All of the centers are limited to using federally approved stem cell lines listed on the National Institutes of Health Human Embryonic Stem Cell Registry. The full release is available online at:

<http://www.nih.gov/news/pr/aug2005/nigms-09.htm>

**REQUEST FOR INFORMATION: COMMENTS ON THE IDENTIFICATION OF MENDELIAN DISORDERS BY GENOMIC SEQUENCING** The National Human Genome Research Institute is considering a program that would apply NHGRI's established large-scale sequencing capacity to problems of significant and direct medical interest. As part of these deliberations, the Institute is trying to determine the extent to which investigators who are working on projects to identify genetic variations that cause human Mendelian disorders have encountered a barrier to completing their projects, which could be overcome by the acquisition of genomic sequence data. NHGRI invites these investigators to provide the NIH with information about the status of their projects. The NHGRI is particularly interested in cases in which a major roadblock to completing those projects could be overcome by large-scale sequencing, and where the amount of sequencing required would be prohibitive to the individual investigator. Investigators who are not currently in such circumstances, but who work in this area, are also invited to comment.

For more information, please visit:

<http://grants.nih.gov/grants/guide/notice-files/NOT-HG-05-006.html>

**DISCOVERY ILLUMINATES SURPRISING FLEXIBILITY OF CHROMOSOMES** For the first time, scientists have shown that a genetic element on one chromosome may direct gene activity on another chromosome. Howard Hughes Medical Institute (HHMI) researcher, Richard A. Flavell, Ph.D., Yale University School of Medicine, reports that a multi-tasking master control region appears to oversee both a set of its own genes and a related gene on a nearby chromosome. This research was published in the May 08, 2005, issue of Nature. For the full story, go to <http://www.hhmi.org/news/flavell3.html>

### **PiggyBac PAVES WAY FOR BETTER UNDERSTANDING OF HUMAN GENES**

HHMI researchers, Tian Xu, Ph.D., Yale University School of Medicine, and Min Han, Ph.D., University of Colorado at Boulder, have harnessed a mobile gene from the cabbage looper moth and modified it for routine use to determine the function of genes in mice and other vertebrates. If the new tool works as they expect, it will speed understanding of genes involved in human biology and disease and accelerate the search for effective new therapies. This research was published in the August 12, 2005, issue of *Cell*. For the full story, go to

<http://www.hhmi.org/news/xu4.html>

### **GETTING SKIN DEEP: STUDIES SHOW HOW SKIN FORMS DEEP LAYERS**

Howard Hughes Medical Institute researchers have new evidence that pushes aside old theories about how skin is able to create layers of different cell types while simultaneously forming a continuously self-renewing, protective barrier. The discovery helps to explain how skin becomes "stratified" into different layers and may yield new insights into the basic processes by which stem cells can both self-replicate to produce more stem cells and also mature and differentiate to form a tissue. This study was published online August 10, 2005, in *Nature* by Elaine Fuchs, Ph.D., The Rockefeller University. For the full story, go to

<http://www.hhmi.org/news/fuchs3.html>

### **PUBLIC COMMENT REQUESTED ON *HEALTHY PEOPLE 2010***

On behalf of the US Department of Health and Human Services (HHS), the Office of Disease Prevention and Health Promotion (ODPHP) is soliciting the submission of electronic comments for consideration on changes and revisions proposed to the *Healthy People 2010* objectives as a result of the Midcourse Review process. The Midcourse Review, conducted at the midpoint of the decade, is the process through which the *Healthy People 2010* objectives are reviewed by HHS, the lead agencies for the Healthy People focus areas, and other experts, to assess the data trends during the first half of the decade, consider new science and available data, and make changes that ensure that *Healthy People 2010* remains current, accurate, and relevant. The proposed revisions take the form of: establishing baselines and targets for formerly developmental objectives (i.e., objectives that had no baseline data or target when *Healthy People 2010* was released in 2000); changes to the language of objectives and subobjectives; deletions of objectives and subobjectives; new subobjectives; and baseline and target revisions.

The public is invited to comment through the Internet Website on: objectives and subobjectives that are moving from developmental to measurable objective status; objectives and subobjectives with revisions to their overall language; the deletion of objectives and subobjectives; the addition of new subobjectives; the establishment of new baselines, targets, and target setting methods; and changes to data sources. Written comments received in response to this notice will be reviewed and considered by the lead agencies for the objectives to which they pertain.

**DATES:** Written comments must be submitted via the Internet website by the close of business Eastern Standard Time on September 15, 2005.

**ADDRESSES:** The proposed revisions to *Healthy People 2010* objectives can be viewed and commented on at <http://www.healthypeople.gov/data/midcourse>

**FOR FURTHER INFORMATION CONTACT:** Email the Office of Disease Prevention and Health Promotion, Office of Public Health and Science, U.S. Department of Health and Human Services, at [hp2010@osophs.dhhs.gov](mailto:hp2010@osophs.dhhs.gov).

**BACKGROUND:** HHS has led a nationwide process to formulate and monitor national disease prevention and health promotion objectives since 1979. The Healthy People initiative began in 1979 with *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*, which presented general goals for reducing preventable death and injury in different age groups by 1990. These general goals were followed in 1980 by the publication of *Promoting Health/Preventing Disease: Objectives for the Nation*, which identified five overarching goals supported by a set 226 objectives organized in 15 strategic areas to be achieved by 1990. The five goals targeted mortality and morbidity for five distinct age groups.

In 1990, HHS published *Healthy People 2000*, which established three overarching goals and contained 319 objectives in 22 priority areas. The *Healthy People 2000* goals were 1) increase the span of healthy life, 2) reduce health disparities, and 3) provide access to preventive health services.

Building on the experiences of the first two decades of objectives, public hearings, and a public comment process that generated more than 11,000 public comments, in January 2000, HHS issued *Healthy People 2010*, the third generation of 10-year disease prevention and health promotion objectives for the Nation. *Healthy People 2010* is a comprehensive set of national health objectives, based on science, for the first decade of the 21<sup>st</sup> century. It identifies two overarching goals (i.e., increase the quality and years of healthy life, and eliminate health disparities) that are supported by 467 objectives in 28 focus areas. For more information about *Healthy People 2010* and its history, visit the *Healthy People 2010* Internet website at <http://www.healthypeople.gov>.

Through the *Healthy People 2010* Midcourse Review, the lead agencies for the 28 *Healthy People 2010* focus areas have proposed revisions to the Healthy People 2010 objectives that are now available for public review and comment. Public comment on the objectives will be considered by the appropriate lead agencies. ODPHP, within the Office of Public Health and Science, serves as the overall coordinator for the dissemination and processing of the public comments.

A new HHS report entitled *Healthy People 2010 Midcourse Review*, featuring the revisions and a status report on progress from 2000 to 2005 toward achieving the targets for the year 2010, is scheduled for publication in 2006.

**RESEARCHERS DEVISE NEW TECHNIQUE FOR CREATING HUMAN STEM CELLS** HHMI researchers Douglas A. Melton, Ph.D., & coworkers at Harvard University, have developed a new technique for creating human embryonic stem cells by fusing adult somatic cells with embryonic stem cells. The fusion causes the adult cells to undergo genetic reprogramming, which results in cells that have the developmental characteristics of human embryonic stem cells. The new technique may permit scientists to derive new human embryonic stem cell lines without the need to use human embryos. This approach could become an alternative to somatic cell nuclear transfer (SCNT), a method that is currently used to produce human stem cells. SCNT involves transferring the nuclei of adult cells, called somatic cells, into oocytes in which scientists have removed the nuclei. This research was published in the August 26, 2005, issue of *Science*. For the full story, go to <http://www.hhmi.org/news/melton6.html>

**VNS APPROVED FOR DEPRESSION** The Food and Drug Administration (FDA) has approved the vagal nerve stimulator (VNS) for use in the treatment of depression. For a copy of the press release from the Cyberonics go to:

[http://www.cyberonics.com/PressRelease\\_detail.asp?ID=F5FBFBC8-1998-46D3-A234-53A960853081](http://www.cyberonics.com/PressRelease_detail.asp?ID=F5FBFBC8-1998-46D3-A234-53A960853081)

**CLINICAL TRIALS RESOURCE** Over 100,000 people visit [www.epilepsy.com](http://www.epilepsy.com) each month, including many with medication-resistant seizures who may be candidates for clinical trials of epilepsy therapies. Epilepsy.com is therefore pleased to announce the launch of the Clinical Trials Directory on [www.epilepsy.com](http://www.epilepsy.com) as a service to the professional epilepsy community and to patients interested in clinical trials. Principal Investigators can list their IRB-approved epilepsy clinical trials that are actively enrolling participants FOR FREE. Listings are subject to review by Epilepsy.com editors. Go to [http://www.epilepsy.com/clinical/clinical\\_trials.php](http://www.epilepsy.com/clinical/clinical_trials.php) for further details and to download the clinical trial listing application form. Contact Steve Schachter at [sschacht@caregroup.harvard.edu](mailto:sschacht@caregroup.harvard.edu) with any questions.

## **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](mailto:info@tsalliance.org) or by telephone: 1-800-225-6872 or 301-562-9890.