The Progeria Research Foundation, Inc.

President
Executive Director
Audrey Gordon, Esq.

Board of Directors
Carl Alviti, CPA
Scott D. Berns, MD, MPH
Sandra A. Bresnick, Esq.
Monica Kleinman, MD
Rabbi Harold Kushner
Suzette Kushner, MS
Robert K. Morrison
John Seng

Board of Advisors
W. Ted Brown, MD, PhD
Robert N. Butler, MD
George M. Martin, MD
Mary Oh, MD
William Oh, MD
Dr. William F. Schulz
Mel Zuckerman

Medical Director
Leslie B. Gordon, MD, PhD

P. O. Box 3453
Peabody, MA 01961-3453
Tel: (978) 535-2594
Fax: (978) 535-5849

Email:
info@progeriaresearch.org

www.progeriaresearch.org

Embargoed For Use Until Feb. 16, 2005 2:00 p.m. (ET)

Liza Morris for The Progeria Research Foundation
lmorris@spectrumscience.com
(202) 955-6222, ext. 2524

Rachel Champeau for UCLA Health Sciences Media Relations
(310) 794-2270

UCLA Finds Cancer Drug May Improve Progeria; Genetic Disease Causes Accelerated Aging in Children

UCLA researchers found that an experimental cancer drug improves the signs of progeria in a mouse model. Progeria is a rare genetic disease causing accelerated aging and cardiovascular disease in children. The new UCLA findings help to define a new strategy for treating children with progeria.

One in four million children are born with progeria that can result in dwarfism, baldness, wrinkles, hardened arteries, and osteoporosis. Most children with progeria die from heart disease before age 15.

In a new study, published February 16 online in the journal *Science*, two UCLA researchers, Drs. Loren Fong and Stephen Young, tested a farnesyltransferase inhibitor (FTI) in mice with progeria. FTIs were initially developed by pharmaceutical companies to treat cancer. The majority of FTI-treated progeria mice showed improvements in body weight, bone integrity, grip strength, and survival compared with untreated control mice.

"This is the first study in an animal model to show that an FTI could be useful in treating progeria and related conditions," said Dr. Loren Fong, an Assistant Professor of Medicine at the David Geffen School of Medicine at UCLA. "We believe that these studies should give some hope to progeria patients and their families."

The UCLA investigators gave an FTI to mice with progeria and normal mice, and compared both groups of mice to control mice that did not receive the drug.

By the end of the 20-week study, six of 14 nontreated progeria mice had died compared to only one of 13 FTI-treated mice. Only two rib fractures occurred in the FTI-treated progeria mice compared with 14 rib fractures in the untreated animals. All of the untreated mice exhibited an abnormally diminished grip compared with only about 30 percent of the FTI-treated mice.

Dr. Fong noted that although the FTI clearly improved the disease in the mice, the drug did not, unfortunately, completely cure all signs of the disease. Dr. Fong speculated that the failure of the drug to completely prevent the disease could be due to inadequate drug dosage, which could be optimized in future studies.

"This early work is very encouraging, and we need to move forward with more research in animal models, and we need to move ahead with planning human studies," said Stephen Young, M.D., Professor of Medicine at the David Geffen School of Medicine.

-MORE-

Hutchinson-Gilford Progeria Syndrome (HGPS or progeria) stems from a mutation that leads to the accumulation of an abnormal protein on the scaffolding for the cell nucleus. The abnormal protein causes misshapen cell nuclei and ultimately leads to all of the disease findings of progeria.

In earlier studies, the UCLA team was the first to demonstrate that FTIs could prevent misshapen nuclei in progeria cells. The drug was effective in improving nuclear shape because it prevented the abnormal protein from reaching the scaffolding of the cell nucleus. "We were very curious to find out if the favorable changes in the shape of cell nuclei would translate into improving the signs of progeria in an animal model," said Fong.

Dr. Leslie Gordon, Progeria Research Foundation's medical director, was very encouraged by the first piece of evidence in an animal model. "This study gives us pieces of information critical to our movement toward clinical trials in children with Progeria. This type of evidence will help us to ensure that the children can safely take this drug."

The National Institutes of Health and the Progeria Research Foundation funded the study. For more information on progeria, see www.progeriaresearch.org.

Other authors include: Margarita Meta, UCSF Department of Radiology; Xin Qiao, Shao H. Yang, and Catherine Coffinier, UCLA Department of Medicine, Division of Cardiology.

###