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UT Southwestern researcher named Howard Hughes Medical Institute Investigator

DALLAS – Oct. 11, 2007 – Dr. Beth Levine, professor of internal medicine and microbiology and chief of the division of infectious diseases at UT Southwestern Medical Center, was named a Howard Hughes Medical Institute (HHMI) investigator today.

Dr. Levine is one of 15 new investigators named in a national competition by the institute, a philanthropic organization that promotes biomedical research. Her appointment brings the number of HHMI investigators who are faculty members at UT Southwestern to 10.

Dr. Levine, holder of the Jay P. Sanford Professorship in Infectious Diseases, is a renowned specialist in the study of autophagy, the process by which cells devour their own unwanted or damaged parts.

Dr. Levine said she is honored to be named an investigator.

“It’s really exciting to be able to have this HHMI position, which will allow us to take our research findings and begin patient-oriented studies,” she said.

Dr. Levine’s laboratory identified the first known mammalian autophagy gene. Her research has shown that defects in the gene, called *beclin 1*, contribute to cancer, aging, neurodegenerative diseases such as Alzheimer’s, infectious diseases and potentially to autoimmune disorders such as systemic lupus erythematosus.

The ultimate goal of her research, Dr. Levine said, is to develop new drugs that will increase *beclin 1* expression and autophagy to help treat patients with diseases such as cancer, HIV and the herpes simplex virus. She said she also hopes to better understand the role autophagy plays in protecting individuals from developing cancer and viral infections.

“This is an important pathway,” she said. “Autophagy also plays a very important role in degenerative diseases like Alzheimer’s and it prevents aging.”

HHMI is one of the world’s largest philanthropies, with an endowment of \$16.3 billion. HHMI investigators are selected from among faculties of universities and academic health centers around the country. Nominations are solicited from these institutions. Investigators conduct research in such topics as cell biology, computational biology, genetics, immunology, neuroscience and structural biology.

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HHMI Levine – 2

Howard Hughes Medical Institute investigators have been involved in many recent advances, from the discovery of genes related to cancer, heart disease, obesity, cystic fibrosis, muscular dystrophy and other diseases to new insights about how organisms develop, cells communicate and learning occurs.

“UT Southwestern is honored to have Dr. Levine added to our team of HHMI investigators,” said Dr. Kern Wildenthal, president of UT Southwestern. “The selection process is exceptionally competitive and HHMI awardees rank among the most outstanding biomedical researchers in the world.”

Since the early 1990s, HHMI has appointed 297 physician-scientists at 64 institutions nationwide.

As an investigator, Dr. Levine said part of her research will be directed toward confirming the role defective autophagy plays in patients with breast cancer, HIV infection and autoimmune diseases such as lupus in order to potentially develop therapies to correct these defects.

Dr. Levine earned her medical degree from Cornell University Medical College. She completed a postdoctoral fellowship in infectious diseases at Johns Hopkins Hospital and joined the UT Southwestern faculty in July 2004. A recipient of the American Cancer Society TIAA-CREF Award for Outstanding Achievements in Cancer Research, Dr. Levine was elected to membership in the American Society of Clinical Investigation in 2000 and the Association of American Physicians in 2006.

In addition to Dr. Levine, HHMI researchers at UT Southwestern include Dr. Zhijian “James” Chen, professor of microbiology; Dr. Johann Deisenhofer, professor of biochemistry; Dr. Nick V. Grishin, associate professor of biochemistry; Dr. Helen Hobbs, director of the Eugene McDermott Center for Human Growth and Development and chief of clinical genetics; Dr. David J. Mangelsdorf, professor of pharmacology; Dr. Michael K. Rosen, professor of biochemistry; Dr. Thomas C. Sudhof, chairman of basic neuroscience; Dr. Xiaodong Wang, professor of biochemistry; and Dr. Masashi Yanagisawa, professor of molecular genetics.

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