

News Release

For immediate release

A first: Hebrew University scientist observes brain cell development in ‘real time’

Jerusalem, 24th May 2007 – For the first time anywhere, a researcher at the Hebrew University of Jerusalem has succeeded in observing in vivo the generation of neurons in the brain of a mammal.

Dr. Adi Mizrahi of the Department of Neurobiology at the Alexander Silberman Institute of Life Sciences at the Hebrew University, used mouse models to study how neurons, or nerve cells, develop from an undifferentiated cellular sphere into a rich and complex cell. This has great significance for the future of brain research, said Dr. Mizrahi, since “the structural and functional complexity of nerve cells remains one of the biggest mysteries of neuroscience, and we now have a model to study this complexity directly.”

The results of Dr. Mizrahi’s groundbreaking work appeared in the online edition of Nature Neuroscience.

Using special microscopic imaging techniques, combined with virus gene technology, Dr. Mizrahi was able to develop an experimental model to study development of neural dendrites in vivo. The dendrites are the string-like extensions of the neuron that spread out to reach other neurons and serve as the points of communication between the neurons.

The model employed by Dr. Mizrahi in his research was the newborn neuron population, which develops into the olfactory bulb of adult mice, providing them with a sense of smell. The development and maintenance of newborn neurons in this area was assessed by time-lapse imaging over several days at different stages of development. Mizrahi revealed that dendritic formation is highly dynamic. Moreover, once incorporated into the network, adult-born neurons in the study also remained dynamic and capable of continuous change.

This method provides a mechanism for observing, for the first time in a mammal, how a neuron develops into a rich and complex cell and how, once developed, neurons are maintained in the highly active and changing environment of the brain.

As for further research that some day could lead to significant breakthroughs in treatment of neural disorders, Dr. Mizrahi noted that “there are only a few small areas in the brain which are capable of neurogenesis, and they hide secrets we want to reveal.”

For more information, or for press contact with students, faculty or spokespersons from HU, please speak in the first instance to Jason Caplin, Communications Manager, on +44 (0)20 7691 1471 or email jason.caplin@bfhu.org.



About the Hebrew University

With 24,000 full-time students, the Hebrew University of Jerusalem is Israel’s pre-eminent institute of higher education. Its faculty members pursue projects that are both essential to Israel’s future and the benefit of humanity. It is a centre of international repute, with formal and informal ties extending to and from the worldwide scientific and academic community. Students come from all over Israel and across the Middle East to study in an atmosphere of academic and research excellence.

About the British Friends of the Hebrew University

Established in 1926, The British Friends of the Hebrew University is the oldest established Jewish charity in support of higher education. The charity works to promote and enhance the reputation of the Hebrew University, ensure that underprivileged students are given the opportunity to complete their studies, and help HU to maintain its standard of excellence and worldwide reputation for research. BFHU acts as the UK’s gateway to Hebrew University research, expertise and faculty, and provides financial and pastoral support for prospective and current students at HU, as well as supporting visiting and sabbatical Hebrew University lecturers during their time in the UK.