

IMBA-Researcher Jürgen Knoblich receives the Wittgenstein Prize 2009

The molecular biologist is honored for his groundbreaking findings in the field of stem cell biology.

Jürgen Knoblich, Senior Scientist and Deputy Director at the Institute of Molecular Biotechnology (IMBA) of the Austrian Academy of Sciences, receives the Wittgenstein Prize of the Austrian Federal Government. Including prize money of 1.4 million Euros, this is the richest science prize of the Republic.

Jürgen Knoblich, born in Memmingen, Germany, is a researcher at IMBA since 2004. He takes specific interest in the scientific question of cell division. A special case of cell division is the asymmetric one, which bears extraordinary significance for stem cell biology. Together with his international team of 18 scientists, Jürgen Knoblich was able to clarify all details of the biologic processes, which take part in this procedure.

Stem cells divide differently

The asymmetric cell division is an elementary process, which enables the body to create a multitude of specialised cells from a reservoir of stem cells, without depleting its stock of stem cells. The detailed understanding of this mechanism and all involved molecules is essential, since an excessive production of stem cells is held responsible for certain tumour diseases, e.g. for leukaemia.

The exact processes of the asymmetric cell division have been mysterious for a long time. Step by step, the team around Jürgen Knoblich has solved the riddle in the recent years. The fruit fly *Drosophila melanogaster* served as a biologic model for the researchers. The scientists were now able to explain the stem cells' way to equip their daughter cells with different features.

Jürgen Knoblich's contribution to stem cell biology could some day lead on to a therapeutic regulation of the asymmetric cell division. The ratio of newly produced stem cells and specialised cells would then be controllable, which could be followed by new prospects for tumour biology as well as for stem cell therapy.

This year's accomplishment of Jürgen Knoblich was the second success of an IMBA-researcher which was awarded with the Wittgenstein Prize. In 2005 the neurobiologist Barry Dickson was honored with the coveted prize. Dickson, who was senior scientist at IMBA at this point of time, is now director of the adjacent Research Institute of Molecular Pathology (IMP).

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