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Press release

IMBA - Institut für Molekulare Biotechnologie der Ö nschaften G
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Alfred Hauptmann Prize for research on Tuberous Sclerosis at IMBA

Researchers at the Institute of Molecular Biotechnology (IMBA) of the Austrian Academy of Sciences will be awarded the Alfred Hauptmann Prize at the "Epilepsie 2023" meeting in Berlin. Jürgen Knoblich, Nina Corsini and Oliver Eichmüller receive the prize in the category of basic research for their work on Tuberous Sclerosis. The Alfred Hauptmann Prize is awarded by the German and Austrian Societies for Epileptology (DGfE & ÖGfE) and the Swiss League Against Epilepsy. The three organizations recognize the two best scientific publications related to epilepsy, in the categories Basic Research and Clinical Research, published by researchers in the three German-speaking countries.

Jürgen Knoblich, Group Leader at the Institute of Molecular Biotechnology (IMBA) of the Austrian Academy of Sciences and Professor of Synthetic Biology at the Medical University of Vienna, as well as two scientists from his team, Nina Corsini and Oliver Eichmüller, receive this year's Alfred Hauptmann Prize in the category Basic Research for their research on Tuberous Sclerosis Complex (TSC). Their publication entitled "Amplification of human interneuron progenitors promotes brain tumors and neurological defects", published in Science in January 2022, is recognized by the German and Austrian Societies for Epileptology (DGfE & ÖGfE) and the Swiss League Against Epilepsy as the best basic research publication related to epilepsy published within the last two years by a research team in Germany, Austria or Switzerland.

TSC is a rare neurodevelopmental genetic disorder that manifests in the form of severe epilepsy and psychiatric symptoms like autism and learning difficulties. TSC's morphological signs include brain tumors and lesions in the cerebral cortex termed "tubers". In their study published in January 2022 in Science, Knoblich, Corsini and Eichmüller used patient-derived human brain organoids, 3D cell culture models of the human brain, to recapitulate the patients' clinical presentation in vitro. These TSC human brain organoids, developed from patient blood sample stem cells, allowed the researchers to reconstruct a faithful representation of the patients' brain development and morphological peculiarities, including the tumors and tubers. Using this approach, the IMBA researchers were able to identify a cell type specific to human brains as the origin of these two morphological abnormalities during brain development. They named the newly discovered cell type in question "CLIP cells", or Caudal Late Interneuron Progenitors.

The research of the Knoblich group aims to illuminate the fundamental aspects of brain development, as well as neurodevelopmental and neurological disorders, and identify possible future treatment avenues. Human brain organoids, also called "cerebral organoids", were first developed by the Knoblich lab at IMBA in 2013. With this technology, the group advances current knowledge on the molecular and cellular aspects of brain development, as well as various disease mechanisms.

About IMBA:
The Institute of Molecular Biotechnology (IMBA) of the Austrian Academy of Sciences (ÖAW) is one of Europe's leading biomedical research institutes. IMBA is located at the Vienna BioCenter, Austria's vibrant cluster of universities, research institutes, and biotech companies. IMBA research topics include chromosome biology, RNA biology, selfish

elements and silencing mechanisms, functional genomics, cell and developmental biology, stem cell biology, molecular medicine, neuroscience, organoid research, and disease models.

URL for press release: https://bit.ly/HauptmannPrizeIMBA link to the press text on the IMBA website

From left to right: Oliver Eichmüller, Nina Corsini, and Jürgen Knoblich. ©IMBA
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