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Research Center for Molecular Medicine
of the Austrian Academy of Sciences

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Embargo: Tuesday, 3 September 2019, 12.00 pm CEST

ERC Starting Grant for CeMM PI Georg Winter

Georg Winter, CeMM Principal Investigator has received a prestigious Starting Grant of the European Research Council (ERC) for his research proposal "Glue2Degrade: Therapeutic hijacking of E3 Ligases". The project will be funded with 1.3 € million over a period of five years.

With his research proposal Georg Winter addresses a timely and important problem, trying to fill a gap in drug development and cancer research. The Glue2Degrade project aims to transform the pharmacologically targetable space of the proteome. The project is built on the hypothesis that small molecules that can induce targeted protein degradation are much more prevalent than currently anticipated. Georg's proposal focuses on the identification of so-called "molecular glues", which degrade proteins by inducing cooperative protein binding to E3 ubiquitin ligases. This opens up the potential for therapeutic development of cell-, tissue-, and cancer-type specific degradation of otherwise undruggable proteins.

Traditional drug design relies on inhibition of enzymes or receptors with accessible hydrophobic pockets. Hence, most existing small-molecules are limited to the traditional "key and keyhole principle". Unfortunately, only about 20% of all proteins can be targeted via this strategy. The concept of chemically targeting proteins for their degradation promises to overcome this limitation. In the Glue2Degrade proposal, Georg wants to revolutionize the field of targeted protein degradation to be able to chemically hijack many new E3 ligases in an unprecedented manner. As a result, his research is expected to deliver novel therapeutic strategies to target cancer as well as a fundamental understanding of mechanisms governing cellular protein degradation.

Georg Winter, PhD, obtained his degree from the Medical University of Vienna, working on elucidating the mechanism of action of anti-cancer drugs under the supervision of Giulio Superti-Furga at CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences. He specialized on proteomics- as well as chemical genetics approaches to identify drug resistance mechanisms and synergistic drug combinations. He continued his training in chemical biology, working as a postdoctoral fellow with James Bradner at the Dana Farber Cancer Institute/Harvard Medical School. He innovated the first generalizable pharmacologic solution to in vivo target protein degradation (Winter et al., Science 2015). He was recruited as a CeMM Principal Investigator in 2016 where his research is now focused on using the unique molecular pharmacology of targeted protein degradation to understand and disrupt aberrant gene control in human cancers. Georg Winter (co-) authored 29 manuscripts including publications in Science, Nature, Nature Chemical Biology, Nature Genetics, Elife and Molecular Cell. Georg Winter's contribution to the field of targeted protein degradation was acknowledged via multiple prizes and awards, including the Eppendorf Award 2019 and the Elisabeth Lutz Award of the Austrian Academy of Sciences.

Project support by the European Research Council (ERC) ranks among the most prestigious fundings within Europe. An ERC Starting Grant is meant for promising early-career researchers with two to seven years'

experience after PhD. Excellence is the sole criterion for selection, and there are neither thematic priorities, nor geographical quotas for funding. The aim is to recognize the best ideas, and confer status and visibility to the best research and talents in Europe.

CeMM congratulates Georg Winter and his team to this great achievement and the well-funded grant!

The mission of **CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences** is to achieve maximum scientific innovation in molecular medicine to improve healthcare. At CeMM, an international and creative team of scientists and medical doctors pursues free-minded basic life science research in a large and vibrant hospital environment of outstanding medical tradition and practice. CeMM's research is based on post-genomic technologies and focuses on societally important diseases, such as immune disorders and infections, cancer and metabolic disorders. CeMM operates in a unique mode of super-cooperation, connecting biology with medicine, experiments with computation, discovery with translation, and science with society and the arts. The goal of CeMM is to pioneer the science that nurtures the precise, personalized, predictive and preventive medicine of the future. CeMM trains a modern blend of biomedical scientists and is located at the campus of the General Hospital and the Medical University of Vienna.
www.cemm.oeaw.ac.at

For **further information** please contact

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