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A role of SUMOylation in proteostasis, centromere integrity and the DNA damage response

Liebelt, F.

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CURRICULUM VITAE

Frauke Liebelt was born on the 23rd of September 1987 in Bad Kreuznach, Germany, where she also completed her secondary school education. She undertook her undergraduate studies in 2008 at the University of Leiden, The Netherlands, and was awarded a BSc in Biology in 2011. She subsequently attained a post-graduate Molecular and Cellular Biosciences MSc qualification at the Leiden University in 2013. As part of this qualification, Frauke gained research experience in the laboratory of Dr. Anne-Marie Cleton-Jansen, Department of Pathology, at the Leiden University Medical Center, studying Loss of heterozygosity, amplification and mutations in candidate tumor suppressor genes in osteosarcoma. She performed a second research internship with Prof. Dr. Kirsten Lauber at the Department of Radiation Oncology, Ludwig-Maximilian University, Munich, Germany, where she studied the role of SECURIN and P53 in the radio-sensitizing effect of the novel HSP90 inhibitor NW457. Subsequently, Frauke carried out her doctoral research in the laboratory of Prof. Dr. Alfred Vertegaal at Leiden University Medical Center. Here, she studied the role of the small ubiquitin-like modifier (SUMO) in various cellular processes. In 2019, Frauke joined the group of Prof. Dr. Andrew Jackson at the Institute for Genetics and Molecular Medicine, University of Edinburgh, United Kingdom.



LIST OF PUBLICATIONS

F. Liebelt, J. Schimmel, M. Verlaan- de Vries, E. Kleemann, M. E. van Royen, Y. van der Weegen, M. S. Luijsterburg, L. H. Mullenders, A. Pines, W. Vermeulen, A. C. O. Vertegaal **(2019)** Transcription-Coupled Nucleotide Excision Repair is Coordinated by Ubiquitin and SUMO in Response to Ultraviolet Irradiation. *Accepted for publication at Nucleic Acid Research*

F. Liebelt, N. S. Jansen, S. Kumar, E. Gracheva, M. Verlaan- de Vries, E. Willemstein, A. C. O. Vertegaal **(2019)** The Poly-SUMO2/3 protease SENP6 enables the assembly of the constitutive centromere-associated network by group de SUMOylation. *Nat Commun.* 10 (1): 3987.

F. Liebelt*, R. M. Sebastian*, C. L. Moore, M. P. C. Mulder, H. Ovaa, A. C. O. Vertegaal, M. D. Shoulders **(2019)** SUMOylation and the HSF1-Regulated Chaperon Network Converge to Promote Proteostasis in Response to Heat Shock. *Cell Rep.* 26(1): 236-249.

M. C. P. Mulder, R. Merks, K. F. Witting, D. S. Hameed, D. El Atmioui, L. Lelieveld, **F. Liebelt**, J. Neefjes, I. Berlin, A. C. O. Vertegaal, H. Ovaa **(2018)** – Total chemical synthesis of SUMO and SUMO-based Probes for profiling the activity of SUMO-specific Proteases. *Angew Chem Int Ed Engl.* 57(29):8958-8962.

D. G. P. Van Ijzendoorn*, Z. Forghany*, **F. Liebelt**, A. C. O. Vertegaal, A. G. Jochemsen, J. V. M. G. Bovee, K. Szuhai, D. A. Baker **(2017)** Functional analyses of human vascular tumor FOS variant identify a novel degradation mechanism and link to tumorigenesis. *J Biol Chem.* 292(52): 21282-21290.

F. Liebelt and A. C. O. Vertegaal **(2016)** Ubiquitin-dependent and independent roles of SUMO in proteostasis. *Am J Physiol Cell Physiol.* 311(2):C283-96.

*both authors contributed equally to this work

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