

## PERSONAL INFORMATION

Krüger, Elke Beate, PhD and Professor, German

Researcher unique identifier(s): ORCID 0000-0002-2551-242X; Researcher ID B-1462-2012

Main Research Interest: Proteostasis Control by the Ubiquitin Proteasome System, Proteasomopathies

URL for web site: <http://www2.medizin.uni-greifswald.de/biochemie/index.php?id=478&L=1>

## A. POSITIONS AND HONORS

### CURRENT POSITION

2017- Full Professor for Medical Biochemistry and Molecular Biology, Director of the Institute of Medical Biochemistry and Molecular Biology, University Medicine Greifswald, Germany

### PREVIOUS POSITIONS

2009- 2017 Associate Professor Charité University Medicine Berlin, Institute of Biochemistry, Germany (tenured)

1999- 2009 Group leader, Charité University Medicine Berlin, Institute of Biochemistry, Germany

1996-1999 Postdoctoral Fellow; Department of Microbiology, University of Greifswald, Germany

### EDUCATION

1996 PhD in Microbiology, Department of Microbiology, University of Greifswald, Germany

1992 Diploma in Microbial Physiology and Biochemistry (equivalent to Master), Faculty of Mathematics and Natural Sciences; University of Greifswald, Germany

### FELLOWSHIPS

1993 – 1996 Scholarship of the German Research Foundation (DFG) in the Graduate School “Structural and Functional Characterization of Pro- and Eukaryotic Genes”

### SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2004- 12 Postdocs; 15 PhD students; 2 MD students; 10 Master students; 7 Bachelor students

### TEACHING ACTIVITIES

2000 – Lectures, Seminars and Practical Courses in Human Biochemistry and Molecular Biology, Charité University Medicine Berlin; Greifswald, Germany

### Other RESPONSIBILITIES

2017 - Chair of the Faculty MD/PhD and PhD program, elected member of the Faculty Board, University Medicine Greifswald, Germany

2013 – Member, Research Network COST “Proteostasis”, “ProteoCure” (EU)

Editor / guest editor *Front. Immunology*

Review ad hoc reviewer *Nature Science, Cell, JACI, Arth. Rheumatol.* and others

German Research Foundation, Wellcome Trust, Swiss National Fonds, ERC, NWO

## B. PEER-REVIEWED PUBLICATIONS (selection)

Seifert U, et al., **Krüger E**. Immunoproteasomes preserve protein homeostasis upon interferon-induced oxidative stress. *Cell* 142, 613-624 (2010).

Steffen J, et al. **Krüger E**. Proteasomal degradation is transcriptionally controlled by TCF11 via an ERAD-dependent feedback loop. *Mol Cell* 40, 147-158 (2010).

**Krüger E**, Kloetzel PM. Immunoproteasomes at the interface of innate and adaptive immune responses: two faces of one enzyme. *Curr Opin Immunol.* 24(1):77-83. (2012)

Brehm A, **Krüger E**. Dysfunction in protein clearance by the proteasome: impact on autoinflammatory diseases, *Seminars in Immunopathology* 37(4):323-33. (2015)

Ebstein F, et al. **Krüger E**. Immunoproteasomes are important for proteostasis in immune responses. *Cell.* 152(5): 935-7. (2013)

Brehm A, et al., **Krüger E**,\*<sup>1</sup> Aksentijevich I<sup>1</sup>, Goldbach-Mansky R.\*<sup>1</sup> Additive loss-of-function proteasome subunit mutations in CANDLER/PRAAS patients promote type I IFN production, \*corresponding author <sup>1</sup>equal contribution *J Clin Invest.* 25(11):4196-211. (2015)

Poli MC et al., **Krüger E**, Lupski JR, Bostwick BL, Orange JS. Heterozygous Truncating Variants in POMP Escape Nonsense-Mediated Decay and Cause a Unique Immune Dysregulatory Syndrome. *Am J Hum Genet.*;102(6): 1126-1142. (2018)

Almeida de Jesus AA et al., **Krüger E**. Novel Proteasome Assembly Chaperone mutations in *PSMG2/PAC2*, cause the autoinflammatory interferonopathy, CANDLER/PRAAS. *J Allergy Clin Immunol*, 143(5):1939-1943.e8. (2019)

Kröll-Hermi A et al., **Krüger E\***, Dollfuss H\*. Proteasome subunit PSMC3 variants cause neurosensory syndrome combining deafness and cataract due to proteotoxic stress, EMBO Mol Med 12:e11861(2020) \*corresponding author

Martinez C, et al. **Krüger E**, Orange JS, Poli MC. HSCT corrects primary immunodeficiency and immune dysregulation in patients with POMP-related autoinflammatory disease. Blood. 138(19):1896-1901. (2021)

Verhoeven D, et al. **Krüger E**, van den Berg JM, Kuijpers TW. Hematopoietic stem cell transplantation in a patient with proteasome-associated autoinflammatory syndrome (PRAAS). J Allergy Clin Immunol. 17:S0091-6749(21)01244-6. (2021)

Isidor B et al. **Krüger E**<sup>1</sup>, Stankiewicz P<sup>1</sup>. Stankiewicz-Isidor syndrome: expanding the clinical and molecular phenotype, Genetics in medicine 24(1):179-191. (2022) <sup>1</sup>equal contribution

### **C. RESEARCH SUPPORT (OVER THE LAST 10 YEARS)**

**Research Support:** funded projects mainly by the German Research Foundation (DFG)

<https://gepris.dfg.de/gepris/person/1621900?language=en>  $\Sigma$ 4.6 Mio Euro