

Becker, Katja, Prof. Dr.

Date of Birth 07.03.1965 in Heidelberg

Biochemistry and Molecular Biology
Justus-Liebig-Universität Gießen
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Position Professor C4/W3
Children 1 daughter (1998)

1) Academic Education

1990-1991 Internships at the Kantonsspital Basel (Internal Medicine), Heidelberg University (Cardiac surgery), and at the John Radcliffe Hospital Oxford (Pediatrics)

1984-1991 Medical education, Heidelberg University

2) Advanced Professional Degrees

1998 Medical specialization in Biochemistry (Facharzt)

1996 Habilitation for Biochemistry, Heidelberg University

1993 Approbation as Medical Doctor

1991 Final Medical Examination

1986-1988 Doctoral-thesis, Centre of Biochemistry, Heidelberg University (*summa cum laude*)

3) Positions Held

since 2014 Vice President German Research Foundation (DFG)

2009-2012 Vice President (Research) of the Justus Liebig University Giessen

since 2000 C4/W3-Professor for Biochemistry and Molecular Biology (chair) at the Interdisciplinary Research Centre, Giessen University

1999-2000 Junior Group Leader, Research Centre for Infectious Diseases, Würzburg University

1999 Associate Professor, Center of Biochemistry, Heidelberg University

1994 Postdoctoral Researcher, Institute of Pathology, Sydney University

1993-1999 Assistant Professor, Centre of Biochemistry, Heidelberg University

1992-1993 Medical Assistant University Children's Hospital, Heidelberg (Clinical work and Research in Ghana and Nigeria)

1988-1989 DFG Scholar at the Institute of Pathology, Sydney University, Australia

4) Other Activities

Honors and Awards

2010 Rudolf-Leuckart-Medal of the German Society of Parasitology

since 2009 Member of the German National Academy of Sciences "Leopoldina"

2003 Carus-Medal of the German Academy for Natural Scientists "Leopoldina"

2003 Funding of the Symposium "*Redox Metabolism in Malaria: From Genes to Drugs*", Bellagio, Italy, by the Rockefeller Foundation

2000-2005 Member of the "Junge Akademie" at the "Berlin-Brandenburgische Akademie der Wissenschaften" and the "Leopoldina"

1998 Friedrich-Fischer-Nachlaß, Heidelberg University

1994 Boehringer Mannheim Research Scholarship

1989 Ludolf-Krehl-Preis, „Südwestdeutsche Gesellschaft für Innere Medizin“

Other Professional Activities

since 2016	Member of the Scientific Advisory Board "Zentrum für Infektionsforschung", Würzburg University
since 2014	Speaker of the DFG Priority Program SPP 1710 "Dynamics of thiol-based redox switches in cellular physiology"
since 2010	Mentor for female early career academics (Pro Professur and SciMento)
since 2013	SAB Kerckhoff Herzforschungsinstitut, Bad Nauheim
2007-2014	Section Speaker Giessen Graduate Center for the Life Sciences
since 2006	SAB "Center for International Development and Environmental Research"
11/05-4/06	Sabbatical Department of Cell Biology, The Scripps Research Institute, La Jolla, CA, USA
2004-2005	Speaker Interdisciplinary Research Centre, Giessen University

Memberships in Learned Societies

- Leopoldina, German National Academy of Sciences
- German Society for Parasitology
- German Society for Tropical Medicine and International Health
- German Society for Biochemistry and Molecular Biology
- International Society for Free Radical Research

5) Publications - 10 most important out of 243, H-index: 60 (Google Scholar, January 2018)

- 1) Krieg R, Jortzik E, Goetz A-A, Blandin S, Wittlin S, Elhabiri M, Rahbari M, Nuryyeva S, Voigt K, Dahse HM, Brakhage A, Beckmann S, Quack T, Grevelding CG, Pinkerton AB, Schönecker B, Burrows J, Davioud-Charvet E, Rahlfs S, **Becker K** (2017) Arylmethylamino steroids as antiparasitic agents. **Nat Commun** 8: 14478.
- 2) Wang L, Delahunty C, Fritz-Wolf K, Rahlfs S, Prieto JH, Yates III JR, **Becker K** (2015). Characterization of the 26S proteasome network in *P. falciparum*. **Scientific Reports** 5: 17818.
- 3) Kasozi D, Rahlfs S, Mohring F, Meyer AJ, **Becker K** (2013) Real-time imaging of the intracellular glutathione redox potential in the malaria parasite *Plasmodium falciparum*, **PLoS Pathogens** 9: e1003782.
- 4) Fritz-Wolf K, Kehr S, Stumpf M, Rahlfs S, **Becker K** (2011). Crystal structure of the human thioredoxin reductase - thioredoxin complex. **Nature Commun** 2: 383, doi: 10.1038/ncomms1382.
- 5) Perez-Jimenez R, Li J, Kosuri P, Sanchez-Romero I, Wiita AP, Rodriguez-Larrea D, Chueca A, Holmgren A, Miranda-Vizuete A, **Becker K**, Cho SH, Beckwith J, Gelhaye E, Jacquot JP, Gaucher E, Sanchez-Ruiz JM, Berne B, Fernandez JM (2009). Diversity of chemical mechanisms in thioredoxin catalysis. **Nature Struct Mol Biol** 16: 890-896.
- 6) Koncarevic S, Rohrbach P, Deponte M, Prieto H, Yates J, Rahlfs S, **Becker K** (2009) *Plasmodium falciparum* imports the human protein peroxiredoxin 2 for peroxide detoxification. **Proc Natl Acad Sci USA** 106: 13323-13328
- 7) Urig S, Fritz-Wolf K, Réau R, Herold-Mende C, Tóth K, Davioud-Charvet E, **Becker K** (2006) Undressing of phosphine gold(I) therapeutic agents as irreversible inhibitors of human disulfide reductases. **Angew Chem Int Ed Engl** 45: 1881-1886.
- 8) Fritz-Wolf K, Becker A, Rahlfs S, Harwaldt P, Schirmer RH, Kabsch W, **Becker K** (2003). X-ray structure of glutathione S-transferase from the malarial parasite *Plasmodium falciparum*. **Proc Natl Acad Sci USA** 100: 13821-13826.
- 9) Kanzok S, Fechner A, Bauer H, Ulschmid JK, Müller HM, Botella-Munoz J, Schneuwly S, Schirmer RH, **Becker K** (2001). Substitution of the thioredoxin system for glutathione reductase in *Drosophila melanogaster*. **Science** 291: 643-646.
- 10) **Becker K**, Savvides S, Keese M, Schirmer RH, Karplus PA (1998). Enzyme inactivation through sulfhydryl oxidation by physiologic NO-carriers. **Nature Struct Biol** 5: 267-271.

Patents: Presently 6 patents in the areas of drug discovery and redox biology.