Prof. Dr. Waldemar Kolanus

Personal Data

Title	Prof. Dr.
First name	Waldemar
Name	Kolanus
Current position	Full Professor (W3)
Current institution(s)/site(s), country	Molecular Immunology and Cell Biology Life and Medical Sciences (LIMES) Institute University of Bonn Carl-Troll-Str. 31, D-53115 Bonn/Germany
Identifiers/ORCID	orcid.org/0000-0003-1325-9444

Qualifications and Career

Stages	Periods and Details	
Degree programme	Studies of Biology and Chemistry (State Examination), 10/1978 – 6/1984, University of Hannover, Germany	
Doctorate	1984 – 1987	Molecular Biology/Botany, Thesis: “Isolation and characterization of an early-light induced gene from Pisum sativum L.” University of Hannover, Germany, Prof. Dr. Frank Herzfeld
Stages of academic/professional career	Since 2015:	Managing Director of the Life and Medical Sciences (LIMES) Institute, University of Bonn, Germany
	Since 2006	Full Professor of Molecular Immunology and Cell Biology, Life and Medical Sciences (LIMES) Institute, University of Bonn, Germany
	2002 – 2006	Full Professor (C4, later W3) of Molecular Physiology, University of Bonn, Germany
	1999 – 2002	Associate Professor of Biochemistry (C3). Institute of Biochemistry, LMU Munich, Germany
	1999	Habilitation in Biochemistry, LMU Munich, Germany
	1993 – 1999	Independent Research Group leader (“Nachwuchsgruppenleiter”), Gene Center, LMU Munich, Germany, Head of Institute: Prof. Dr. E.- L. Winnacker
	1990 – 1993	Postdoctoral Fellow, Department of Molecular Biology, Massachusetts General Hospital and Harvard Medical School, Boston, USA, Supervisor: Prof. Brian Seed, PhD
	1987 – 1990	Postdoctoral Fellow, Clinical and Molecular Immunology, Prof. Dr. Reinhold Schmidt, MHH/University Hospital Hannover, Germany

Activities in the Research System

Committee involvement & activities in the field of academic self-governance:

Since 2021	Member of Senate ("Senator"), University of Bonn
Since 2020	Board Member and Spokesperson, ImmunoSensation^2, Cluster of Excellence, EXC2151, University of Bonn
2020 – 2024	Elected Member of DFG Review Board FK201 "Cell Biology"
2015 – 2019	Scientific Editor of the Journal Scientific Reports
2012 – 2019	Board member and Spokesperson ImmunoSensation, Cluster of Excellence, EXC1023, University of Bonn
2009 – 2014	Vice-Speaker CRC 832, University of Cologne
2006 – 2017	Speaker of CRC 704, University of Bonn
2004 – 2008	Board member and spokesperson "Bonner Forum Biomedizin"
2004 – 2008	Speaker, Cell Adhesion Group of the DGFI

Memberships in scientific societies: German Society for Biochemistry and Molecular Biology (since 1994); German Society of Immunology (since 1994).

Key Third Party Funding (last five years): *NaCl-dependent functional differentiation of dermal myeloid cell subpopulations,* Project P13 in CRC 1454 Metaflammation and Cellular Programming, Co-PIs: Elvira Mass, Waldemar Kolanus (DFG, 01/21 – 12/24, 489k € (total), 247,7k € (personal)); *IRTG 2168: Myeloid antigen presenting cells and the induction of adaptive immunity* PI: Waldemar Kolanus (DFG, 2016 – 2025, 179.2k €); *Research Unit FOR 2743. KO 1034/6-1, TP7: The role of small cellular GTPases in mechano-transduction of leukocytes and cardiomyocytes.* Co-PIs: Waldemar Kolanus, Dagmar Wachten (DFG, 2018 – 2023, 610.5k €). Over all years Project Leader in ten CRCs: 190, 455, 464, 576, 645, 670, 704, 832, 704, 1454 and two GRKs/IRTGs: 804, 2168.

Academic Distinctions: Gene Center Group Leader Fellowship, LMU Munich, Germany (1993); MGH Research Fellowship, Massachusetts General Hospital and Harvard Medical School Boston, USA (1990).

Scientific Results

Citations: 12785, h-index: 58, i10-index: 103 (Google Scholar, 21.03.2024)

Category A (* corresponding author)

1. P.Q. Duy, B. Jux, S. Zhao, K.Y. Mekbib, E. Dennis, W. Dong, C. Nelson-Williams, N.H. Mehta, J.P. Shohfi, J. Juusola, G. Allington, H. Smith, S. Marlin, K. Belhous, B. Monteleone, G.B. Schaefer, M.D. Pisarska, J. Vásquez, J.I. Estrada-Veras, B. Keren, C. Mignot, L.A. Flore, I.V. Palafoll, S.L. Alper, R.P. Lifton, S. Haider, A. Moreno-De-Luca, S.C. Jin*, **W. Kolanus***, K.T. Kahle* "*TRIM71* mutations cause a neurodevelopmental syndrome featuring ventricomegaly and hydrocephalus" *Brain* **2024,** awae175. Online ahead of print. DOI: 10.1093/brain/awae175.

2. P.Q. Duy, S.C. Weise, C. Marini, X. Li, D. Liang, P.J. Dahl, S. Ma, A. Spajic, W. Dong, J. Juusola, E. Kiziltug, A.J. Kundishora, S. Koundal, M.Z. Pedram, L.A. Torres-Fernández, K. Händler, E. De Domenico, M. Becker, T. Ulas, S.A. Juranek, E. Cuevas, L.T. Hao, B. Jux, A.M.M. Sousa, F. Liu, S.-K. Kim, M. Li, Y. Yang, Y. Takeo, A. Duque, C. Nelson-Williams, Y. Ha, K. Selvaganesan, S.M. Robert, A.K. Singh, G. Allington, C.G. Furey, A.T. Timberlake, B.C. Reeves, H. Smith, A. Dunbar, T. DeSpenza Jr., J. Goto, A. Marlier, A. Moreno-De-Luca, X. Yu, W.E. Butler, B.S. Carter, E.M.R. Lake, R.T. Constable, P. Rakic, H. Lin, E. Deniz, H. Benveniste, N. Malvankar, J.I. Estrada-Veras, C.A. Walsh, S.L. Alper,

J. Schultze, K. Paeschke, A. Doetzlhofer, F.G. Wulczyn, S.C. Jin, R.P. Lifton, N. Sestan, **W. Kolanus**, K.T. Kahle* “Impaired neurogenesis alters brain biomechanics in a neuroprogenitor-based genetic subtype of congenital hydrocephalus” *Nat. Neuroscience* **2022**, 25, 458–473. DOI: 10.1038/s41593-022-01043-3.

3. L.A. Torres-Fernández, B. Jux, M. Bille, Y. Port, K. Schneider, M. Geyer, G. Mayer, **W. Kolanus*** “The mRNA repressor TRIM71 cooperates with Nonsense-Mediated Decay factors to destabilize the mRNA of CDKN1A/p21” *Nucleic Acids Res.* **2019**, 47, 11861–11879. DOI: 10.1093/nar/gkz1057.
4. T. Quast, B. Tappertzhofen, C. Schild, J. Grell, N. Czeloth, R. Förster, R. Alon, L. Fraemohs, K. Dreck, C. Weber, T. Lämmermann, M. Sixt, **W. Kolanus** “Cytohesin-1 controls the activation of RhoA and modulates integrin-dependent adhesion and migration of dendritic cells” *Blood* **2009**, 113, 5801–5810. DOI: 10.1182/blood-2008-08-176123.
5. R. Shamri, V. Grabovsky, J.M. Gauguet, S. Feigelson, E. Manevich, **W. Kolanus,** M.K. Robinson, D.E. Staunton, U.H. von Andrian, R. Alon* “Lymphocyte arrest requires instantaneous induction of an extended LFA-1 conformation mediated by endothelium-bound chemokines” *Nat. Immunol.* **2005**, 6, 497–506. DOI: 10.1038/ni1194.
6. T. Boehm, S. Hofer, P. Winklehner, B. Kellersch, C. Geiger, A. Trockenbacher, S. Neyer, H. Fiegl, S. Ebner, L. Ivarsson, R. Schneider, E. Kremmer, C. Heufler*, **W. Kolanus*** **“**Attenuation of cell adhesion in lymphocytes is regulated by CYTIP, a protein which mediates signal complex sequestration” *The EMBO Journal* **2003**, 22, 1014–1024. DOI: 10.1093/emboj/cdg101.
7. K.S.C. Weber, C. Weber*, G. Ostermann, H. Dierks, W. Nagel, **W. Kolanus** ”Cytohesin-1 is a dynamic regulator of distinct LFA-1 functions in leukocyte arrest and transmigration triggered by chemokines” *Current Biology* **2001**, 11, 1969–1974. DOI: 10.1016/s0960-9822(01)00597-8.
8. C. Geiger, W. Nagel, T. Boehm, Y. van Kooyk, C.G. Figdor, E. Kremmer, N. Hogg, L. Zeitlmann, H. Dierks, K.S.C. Weber, **W. Kolanus*** “Cytohesin-1 regulates β-2 integrin-mediated adhesion through both ARF-GEF function and interaction with LFA-1” *The EMBO Journal* **2000**, 19, 2525–2536. DOI: 10.1093/emboj/19.11.2525.
9. **W. Kolanus*,** W. Nagel, B. Schiller, L. Zeitlmann, S. Godar, H. Stockinger, B. Seed ”αLβ2 integrin/LFA-1 binding to ICAM-1 induced by cytohesin-1, a cytoplasmic regulatory molecule” *Cell* **1996**, 86, 233–242. DOI: 10.1016/s0092-8674(00)80095-1.
10. **W. Kolanus,** C. Romeo, B. Seed “T cell activation by clustered tyrosine kinases” *Cell* **1993**, 74, 171–183. DOI: 10.1016/0092-8674(93)90304-9.

Category B

Patents:

1. Targeted cytolysis of HIV-infected cells by chimeric CD4 receptor bearing cells, US Patent 7094599, publication date: 8/22/2006.
2. Redirection of cellular immunity by receptor chimeras, US Patent 7049136, publication date: 5/23/2006.
3. Cells bearing CD4 decoy receptors and related molecules and methods, European Patent, EP781095B1, publication date: 3/12/2003.
4. Low-molecular weight inhibitors of cytohesin-family guanine nucleotide exchange factors, US Patent 8163788, publication date: 4/24/2012.
5. Identifying agents for treating cardiovascular disease, comprises determining the ability of a potential agent to modify interaction between beta3 endonexin and beta3 integrin, German patent, DE 10037272, publication date: 12/20/2001.
6. Cytohesin PH peptides which affect the ability of integrins to adhere, US Patent 6573362, publication date: 06/03/2002.
7. Methoden zur Identifizierung und Validierung von funktionellen Zielen mittels Intrameren oder in vivo Selektion, German Patent DE69918260, publication date: 7/29/2004.