

Prof. Dr.rer.nat. Sandra Iden, Dipl. Biochem

Professor for Cell and Developmental Biology
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Education

- 2007 Dr.rer.nat., WWU Münster, Germany (*summa cum laude*)
Supervisor: Prof. Dr. Klaus Ebnet
- 2003 Diploma in Biochemistry, Leibniz University Hannover, Germany
Diploma thesis: MPI for exp. Endocrinology, supervisors: Prof. Dr. Karl Bauer, Dr. Heike Heuer
- 2002 Institute of Cellular Chemistry, Hannover Medical School, Germany (Prof. R. Gerardy-Schahn)
- 2002 Center for Neurobiology and Behavior, Columbia University New York, USA (Prof. C. A. Mason)
- 2001 Institute of Biophysical Chemistry, Hannover Medical School, Germany (Prof. J. Alves)
- 1998 - 2003 Studies in Biochemistry, Leibniz University Hannover, Germany

Professional Appointments

- since 2020 Full Professor (W2) and Chair for Cell & Developmental Biology, Saarland U.
- 2011 - 2019 Independent Research Group Leader, CECAD, University of Cologne (UoC)
- 2007 - 2010 Research Associate at The Netherlands Cancer Institute, Division of Cell Biology, Amsterdam, The Netherlands, Mentor: Dr. John G. Collard
- 2007 Postdoc at Institute of Medical Biochemistry, University Hospital Muenster, Germany, Mentor: Prof. Dr. Klaus Ebnet

Commissions of Trust, Institutional Tasks, Honors

- 10/2023 - Study Dean and Deputy Director, ZHMB, Saarland U.
- 2022 - Vice president German Society for Cell Biology (DGZ), Executive Board
- 2022 - Mentor in Excellence Program for junior research group leaders, Saarland U.
- 2021 - PI in CRC 1027, Saarland U.
- 2020 - 2022 DGZ Executive Board, CEO
- 2020 - Member Center Council, ZHMB, Saarland U.
- 2020 - Examination board B.Sc. Biology, M.Sc. Human & Mol. Biol., ZHMB, Saarland U.
- 2020 - Research Committee (Forschungskommission), Medical Faculty, Saarland U.
- 2019 Chair of EMBO Workshop 'Cell Polarity & Membrane Dynamics', Spain
- 2015 - PI in SPP1782 (both funding periods)
- 2015 - 2020 Executive Board Member, CRC 829, UoC
- 2013 - 2021 PI in CRC 829, UoC (second & third funding periods)
- 2013 - 2020 Coordinator CRC 829 IRTG, w. T. Krieg, UoC
- 2013 - 2019 Executive Board Member, CECAD Excellence Cluster, UoC
- 2013 - 2019 Representative Junior Research Group Leaders at CECAD, UoC
- 2013 - 2021 Faculty Member, Cologne Graduate School of Ageing, UoC
- 2012 - 2021 Associated Faculty, Graduate School for Biological Sciences, UoC

Memberships

German Society for Cell Biology (DGZ)
European Society for Dermatological Research (ESDR)
European Association for Cancer Research (EACR)
Society for Biochemistry and Molecular Biology (GBM)

Research interests

Our core scientific interest is to uncover mechanisms of cell-cell communication and cell polarity in tissue homeostasis, and consequences of disturbed cell-cell adhesion and polarity signalling in disease. We aim to understand how different cell types communicate, synergize or compete with each other at tissue scale, which adhesion molecules mediate such heterotypic cell-cell interactions, how polarity networks impinge on these dynamic interactions, and how these processes fail in the disease context.

10 selected publications

1. Baess SC, Graband A, Sere K, Zenke M, Niemann C, Iden S (2022). Lrig1 and Wnt dependent niches dictate segregation of resident immune cells and melanocytes in murine tail epidermis. *Development* 149 (14): dev200154. doi: 10.1242/dev.200154. Open access.
2. Dias Gomes M, Iden S (2021). Orchestration of tissue-scale mechanics and fate decisions by polarity signalling. *EMBO J*, e106787. doi: 10.15252/embj.2020106787. Open access.
3. Dias Gomes M, Letzian S, Saynisch M, Iden S (2019). Polarity signaling ensures epidermal homeostasis by coupling cellular mechanics and genomic integrity. *Nat Commun* 10, 3362. doi: 10.1038/s41467-019-11325-3. Open access.
4. Vorhagen S*, Kleefisch D*, Schwickert A, Leitges M, Niessen CM#, Iden S# (2018). Shared and distinct functions of atypical PKC λ and Par3 polarity proteins in skin tumorigenesis. *Oncogene*, 37(37):5136-5146 (shared *first / #senior authors). doi: 10.1038/s41388-018-0313-1. Open access.
5. Mescher M, Jeong P, Knapp S, Rüksam M, Saynisch M, Kranen M, Landsberg J, Schlaak M, Mauch C, Tüting T, Niessen CM, Iden S (2017). The epidermal polarity protein Par3 is a non-cell autonomous suppressor of malignant melanoma. *J Exp Med* 214(2):339-358. doi: 10.1084/jem.20160596. Open access.
6. Ali NJA, Dias Gomes M, Bauer R, Brodesser S, Niemann C, Iden S (2016). Essential role of polarity protein Par3 for epidermal homeostasis through regulation of barrier function, keratinocyte differentiation and stem cell maintenance. *J Invest Dermatol* 136(12):2406-2416. doi: 10.1016/j.jid.2016.07.011. Open access.
7. Iden S*, van Riel WE, Schäfer R, Song J-Y, Hirose T, Ohno S, Collard JG (2012). Tumor Type-Dependent Function of the Par3 Polarity Protein in Skin Tumorigenesis. *Cancer Cell* 22(3):389-403. doi: 10.1016/j.ccr.2012.08.004, *: corresponding author. Open access.
8. Iden S*, Misselwitz S*, Peddibhotla SD, Tuncay H, Rehder D, Gerke V, Robenek H, Suzuki A, Ebnet K (2012). aPKC phosphorylates JAM-A at Ser285 to promote cell contact maturation and tight junction formation. *J Cell Biol* 196(5):623-39. doi: 10.1083/jcb.201104143, *: equal contribution. Open access.
9. Iden S, Rehder D, August B, Suzuki A, Noda K, Nagafuchi A, Wolburg-Buchholz K, Wolburg H, Ohno S, Behrens J, Vestweber D, Ebnet K (2006). A distinct PAR polarity protein complex physically associated with VE-cadherin in vertebrate endothelial cells. *EMBO Rep* 7(12):1239-46. doi: 10.1038/sj.embor.7400819. Open access.
10. Iden S*, Collard JG* (2008). Crosstalk between small GTPases and polarity proteins in cell polarization. *Nat Rev Mol Cell Biol* 9(11):846-59. doi: 10.1038/nrm2521, *: shared correspondence