Ravens, Sarina

D.o.B. 18-12-1985

Current Position

Since 2018 Junior group leader, Institute of Immunology, MHH

Undergraduate and Postgraduate Training

2008 B.Sc. Life-Science, Leibniz University Hannover
2010 M.Sc. Biomedicine, MHH
2014 PhD, Université de Strasbourg, France (Supervisor Prof. L. Tora)

Academic and Research Posts

2010 - 2014 PhD student, IGBMC Strasbourg, France
2015 - 2018 Postdoctoral fellow, Institute of Immunology, MHH
2018 - Junior group leader, Institute of Immunology, MHH

Other Scientific Roles

2015 - Member of the DGFI
2019 Guest Editor at the Journal of Leukocyte biology

Awards and Prizes

2012 NRW Young Scientist Award
2014 PhD stipend "Foundation ARC pour la Recherche sur le Cancer"
2017 Jon J. van Rood Award der European Society for Blood and Marrow Transplantation
2017 DAG-KBT Research price

10 Selected Publications (of 17 original publications)

Tan L*, Sandrock I*, Odak I, Aizenbud Y, Wilharm A, Barros-Martins J, Tabib Y, Borchers A, Amado T, Schmidt-Supprian M, Kisielow J, Silva-Santos B, Koenecke C, Hovav A, Krebs C, Prinz** I, **Ravens S****. *Single-cell transcriptomics identifies the adaptation of Scart1^{+} Vγ6^{+} T cells to skin residency as activated effector cells.* Cell Rep. 2019 Jun 18;27(12):3657-3671.e4. equal contribution; **shared senior-authorship

DiLorenzo B, **Ravens S***, Silva-Santos B*. *High-throughput analysis of the human thymic Vδ1^{+} T cell receptor repertoire*. Sci Data. 2019 Jul 4;6(1):115. **shared senior-authorship

DiLorenzo B, Simoes A, Caiado F, Tieppo P, Correia D, Carvalho T, Gomes da Silva M, Déchanet-Merville J, Schumacher T, Prinz I, Norell H, **Ravens S**, Vermijlen D, Silva-Santos B. *Broad cytotoxic targeting of acute myeloid leukemia by highly polyclonal Delta One T cells.* **Cancer Immunology Research** 2019 Apr;7(4):552-558.

Ravens S*,#, Hengst J*, Schlapphoff V, Deterding K, Dhingra A, Schultze-Florey C, Koenecke C, Cornberg M, Wedemeyer H**, Prinz I**. *Human gamma delta T Cell Receptor Repertoires in Peripheral Blood Remain Stable Despite Clearance of Persistent Hepatitis C Virus Infection by Direct-Acting Antiviral Drug Therapy.* **Front Immunol**. 2018 Mar 16;9:510. *,**equal contribution ; #corresponding author

Ravens S, Schultze-Florey C, Raha S, Sandrock I, Drenker M, Oberdörfer L, Reinhardt A, Ravens I, Beck M, Geffers R, von Kaisenberg C, Heuser M, Thol F, Ganser A, Förster R, Koenecke C*, Prinz I*. *Human gamma delta T cells are quickly reconstituted after stem-cell transplantation and show adaptive clonal expansion in response to viral infection*. **Nat Immunol.** 2017 Apr;18(4):393-401. *shared senior-authorship

Ravens S, Yu C, Ye T, Stierle M, Tora L. *Tip60 complex binds to active Pol II promoters and a subset of enhancers and co-regulates the c-Myc network in mouse embryonic stem cells.* **Epigenetics Chromatin**. 2015 Nov 6;8:45.

Ravens S, Fournier M, Ye T, Stierle M, Dembele D, Chavant V, Tora L. *Mof-associated complexes have overlapping and unique roles in regulating pluripotency in embryonic stem cells and during differentiation*. **Elife**. 2014 Jun 4;3.

Reinhardt A, **Ravens S**, Fleige H, Haas JD, Oberdörfer L, Lyszkiewicz M, Förster R, Prinz I. *CCR7-mediated migration in the thymus controls gamma delta T-cell development*. **Eur J Immunol**. 2014 May;44(5):1320-9.

Haas JD*, **Ravens S***, Düber S, Sandrock I, Oberdörfer L, Kashani E, Chennupati V, Föhse L, Naumann R, Weiss S, Krueger A, Förster R, Prinz I. *Development of interleukin-17-producing gamma delta T cells is restricted to a functional embryonic wave*. **Immunity**. 2012 Jul 27;37(1):48-59. *equal contribution

Giusti C, Luciani MF, **Ravens S**, Gillet A, Golstein P. *Autophagic cell death in Dictyostelium requires the receptor histidine kinase DhkM*. **Mol Biol Cell**. 2010 Jun 1;21(11):1825-35.

Research Interest in RESIST

We are interested in how the immune cells are shaped by environmental factors (e.g. microbiota, infections) during early childhood and how this can be linked to the susceptibility towards infections during life.

We have recently developed a high-throughput sequencing technology and applied bioinformatics methods to analyze human T cell receptor repertoires in relevant patient cohorts. Within RESIST we will take advantage of the PRIMAL cohort (coordinated by D. Viemann) to understand how a defined microbiota, but also infections may influence the postnatal maturation, individual responsiveness and antigen receptor repertoire of T cells and B cells in preterm babies. We further aim at identifying new biomarkers to predict the susceptibility of individual patients against infectious diseases, which may finally improve current therapeutic strategies.

Forschungsinteresse in RESIST

Wir sind daran interessiert, wie die Immunzellen in der frühen Kindheit durch Umweltfaktoren (z.B. Mikrobiota, Infektionen) geprägt sind und wie dies mit der Anfälligkeit für Infektionen im Laufe des Lebens verbunden sein kann.

Wir haben kürzlich eine Hochdurchsatz-Sequenziertechnologie und angewandte bioinformatische Methoden entwickelt, um humane T-Zell-Rezeptor-Repertoires in relevanten Patientenkohorten zu analysieren. Im Rahmen von RESIST werden wir die PRIMALE Kohorte (koordiniert von D. Viemann) nutzen, um zu verstehen, wie eine definierte Mikrobiota, aber auch Infektionen, die postnatale Reifung, die individuelle Reaktionsfähigkeit und das Antigenrezeptor-Repertoire von T-Zellen und B-Zellen bei Frühgeborenen beeinflussen können. Darüber hinaus wollen wir neue Biomarker identifizieren, um die Anfälligkeit einzelner Patienten für Infektionskrankheiten vorherzusagen, was die aktuellen therapeutischen Strategien verbessern könnte.