Dr. rer. nat. Agnieszka Rybak-Wolf

Technology Platform Leader - MDC Berlin

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Personal Information

Agnieszka Rybak-Wolf (Rybak)
Berlin Institute for Medical Systems Biology (BIMSB)
Max-Delbrück-Centrum für Molekulare Medizin (MDC) Berlin
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10115 Berlin
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Brief research portfolio

- Post-transcriptional gene regulation driving neuronal differentiation and brain development
- Expression and function of regulatory RNAs such as miRNAs and circular RNA in the healthy and diseased mammalian nervous system
- Brain 3D in vitro models and organoids

Google Scholar: 18 peer reviewed publications, sum of times cited: 12354; H-index:17

Member of BIH Translation Hub Organoids and Cell Engineering
Associated member of EC3R
Member of the steering committee of the Berlin Stem Cell Club

Curriculum vitae

08/2019 **Head of Organoid Platform**
Berlin Institute for Medical Systems Biology (BIMSB),
Max-Delbrück-Centrum für Molekulare Medizin (MDC) Berlin

10/2009 **Postdoctoral scientist/Staff scientist**
Max-Delbrück-Centrum für Molekulare Medizin (MDC) Berlin

09/2009 **PhD, Dr.rer.nat** (summa cum laude)
Thesis: expression and function of let-7 miRNA during stem cel specification and development Of Central Nervous System

05/2004 **Master of Biotechnology** (grade:1)
Thesis: Construction and characterization of a genomic library of Rhizobium Leguminosarum trifolii in pBAC vector

05/2002 **Bachelor** (grade:1)
Thesis: Gene therapy: present and future

5 selected project related publications

Legnini I, Emmenegger L, Zappulo A, Wurmus R, Oliveras Martinez A, Boltengagen A, Hessler T, Masttrobuoni G, **Rybak-Wolf A**, Kempa S, Zinzen R, Woehler A, Rajewsky N. Spatio-temporal, optogenetic control of gene expression in organoids. bioRxiv; doi: https://doi.org/10.1101/2021.09.26.461850 (now accepted in Nature Methods)

Rybak-Wolf A, Wyler E, Legnini I, Loewa A, Glažar P, Joon Kim S, Pentimalli TM, Oliveras Martinez A, Beyersdorf B, Woehler A, Landthaler M, Rajewsky N. Neurodegeneration in human brain organoids infected with herpes simplex virus type 1. bioRxiv; doi: https://doi.org/10.1101/2021.03.05.434122 (now accepted in Nature Microbiology)

Inak G, **Rybak-Wolf A**, Lisowski P, Pentimalli TM, Jüttner R, Glažar P, Uppal K, Bottani E, Brunetti D, Secker Ch, Zink A, Meierhofer D, Henke MT, Dey M, Ciptasari U, Mlody B, Hahn T, Berruezo-Llacuna M, Karaiskos N, Di Virgilio M, Mayr JA, Wortmann SB, Priller J, Gotthardt M , Jones DP, Mayatepek E, Stenzel W, Diecke S, Kühn R, Erich E. Wanker, Rajewsky N, Schuelke M & Prigione A. Defective metabolic programming impairs early neuronal morphogenesis in neural cultures and an organoid model of Leigh syndrome. Nat. Commun., 2021

Le S, Petersilie L, Inak G, Menacho-Pando C, Kafitz KW, **Rybak-Wolf A**, Rajewsky N, Rose CR, Prigione A.J Generation of Human Brain Organoids for Mitochondrial Disease Modeling, Vis Exp. 2021

Piwecka M, Glažar P, Hernandez-Miranda LR, Memczak S, Wolf SA, **Rybak-Wolf A**, Filipchyk A, Klironomos F, Cerda Jara CA, Fenske P, Trimbuch T, Zywitza V, Plass M, Schreyer L, Ayoub S, Kocks C, Kühn R, Rosenmund C, Birchmeier C, Rajewsky N. Loss of a mammalian circular RNA locus causes miRNA deregulation and affects brain function, Science, 2017