

CURRICULUM VITAE

Matthias Selbach, PhD

PERSONAL INFORMATION

Date of Birth: November 19, 1971
Place of Birth: Düsseldorf, Germany
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EDUCATION

August 2003 PhD in Biology, Humboldt-University Berlin, Germany, Summa cum laude
June 1998 Diploma in Biology, Westfälische Wilhelms-University Münster, Germany
Summa cum laude
1991-1992 Studies of Egyptian Colloquial Arabic, Ain Shams University, Cairo, Egypt
May 1991 Final secondary school exam (Abitur), Deutsche Evangelische Oberschule,
Cairo, Egypt

PROFESSIONAL EXPERIENCE

Since April 2007 Independent group leader (tenure track) at the Max Delbrück Center for
Molecular Medicine, Berlin, Germany
2004-2007 Postdoc in the lab of Matthias Mann at the Center for Experimental
BioInformatics (CEBI), University of Southern Denmark in Odense,
Denmark and at the Max Planck Institute of Biochemistry in Martinsried,
Germany
2000-2004 Research on the interaction of *Helicobacter pylori* with host cells in the lab of
Thomas F. Meyer at the Max Planck Institute of Infection Biology,
Berlin, Germany
1998-1999 National service (Zivildienst) at the Naturschutzzentrum Hessen, Wetzlar,
Germany
1997-1998 Research on light perception of phototactic ciliates in the lab of Hans-Werner
Kuhlmann, Westfälische-Wilhelms University Münster, Germany
October 1995- Internship at the Max Planck Institute of Cell Biology,
March 1996 Ladenburg, Germany
March 1995- Internship as a Science Journalist at the Tageszeitung in Berlin,
May 1995 Germany

ACADEMIC HONORS AND AWARDS

1993-1998 Scholarship “Evangelisches Studienwerk Villigst e.V.”
2003-2004 Postdoc fellowship, Max Planck Society
2004 Best PhD thesis award, Association for General and Applied Microbiology
(VAAM)

- 2007 Helmholtz-University Young Investigator award, Helmholtz Association (HGF) (1,250,000 €)
- 2008 Principal investigator of the project “Protein interaction screening by quantitative proteomics”, NeuroNet, National Genome Research Network NGFNplus, Federal Ministry of Education and research BMBF (720,000 €)
- 2008 Research award of the German Society of Gene Therapy

PUBLICATIONS

- Vermeulen M, Selbach M (2009) Quantitative proteomics: a tool to assess cell differentiation. *Curr Opin Cell Biol.*
- Grossmann KS, Wende H, Paul FE, Cheret C, Garratt AN, Zurborg S, Feinberg K, Besser D, Schulz H, Peles E, Selbach, M, Birchmeier, W, Birchmeier, C (2009) The tyrosine phosphatase Shp2 (PTPN11) directs Neuregulin-1/ErbB signaling throughout Schwann cell development. *Proc Natl Acad Sci U S A* 106:16704-16709.
- Selbach M, Paul FE, Brandt S, Guye P, Daumke O, Backert S, Dehio C, Mann M (2009) Host cell interactome of tyrosine-phosphorylated bacterial proteins. *Cell Host Microbe*, 5:397-403. (shared corresponding author)
- Dittmar G, Selbach M (2009) Novel insights into proteomic technologies and their clinical perspective. *Genome Medicine*, 1:53.
- Cox J, Matic I, Hilger M, Nagaraj N, Selbach M, Olsen JV, Mann M (2009): A practical guide to the MaxQuant computational platform for SILAC-based quantitative proteomics. *Nature Protoc*, 4:698-705.
- Schwanhäusser B, Gossen M, Dittmar G, Selbach M (2009) Global analysis of cellular protein translation by pulsed SILAC, *Proteomics*, 9:205-209.
- Selbach M, Schwanhäusser B, Thierfelder N, Fang Z, Khanin R, Rajewsky N (2008) Widespread changes in protein synthesis induced by microRNAs, *Nature*, 445:58-63. (shared corresponding author)
- Backert S, Selbach M (2008) Role of type IV secretion in *Helicobacter pylori* pathogenesis. *Cell Microbiol.*, 9, 1573-1581.
- Moese S, Selbach M, Brinkmann V, Karlas A, Haimovich B, Backert S, Meyer TF. (2007) The *Helicobacter pylori* CagA protein disrupts matrix adhesion of gastric epithelial cells by dephosphorylation of vinculin. *Cell Microbiol.*, 9,1148-1161.
- Selbach, M., and Mann, M. (2006) Protein interaction screening by quantitative immunoprecipitation combined with knockdown (QUICK). *Nature Methods*, 3:981-983.
- Becker, D., Selbach, M., Rollenhagen, C., Ballmaier, M., Meyer, T.F., Mann, M. and Bumann, D. (2006) Robust *Salmonella* metabolism limits possibilities for new antimicrobials. *Nature*, 440:303-307. (shared first author)
- Backert, S., and Selbach, M. (2005) Tyrosine-phosphorylated bacterial effector proteins: the enemies within. *Trends Microbiol.*, 13:476-484.
- Bauer, B., Moese, S., Bartfeld, S., Meyer, T.F. and Selbach, M. (2005) Host cell factors determine the function of the *Helicobacter pylori* type IV secretion system. *Infect. Immun.*, 73:4643-4652.
- Selbach, M. and Backert, S. (2005) Cortactin: an Achilles' heel of the actin cytoskeleton targeted by pathogens. *Trends Microbiol.*, 13: 181-189.
- Backert, S., Kwok, T., Schmid, M., Selbach, M., Moese, S., Peek, R.M. Jr, Konig, W., Meyer, T.F. and P.R. Jungblut (2005) Subproteomes of soluble and structure-bound *Helicobacter pylori* proteins analyzed by two-dimensional gel electrophoresis and mass spectrometry. *Proteomics*, 5:1331-1345.
- Selbach, M., Moese, S., Backert, S., Jungblut, P. and Meyer, T.F. (2004) The *Helicobacter pylori* CagA protein induces tyrosine dephosphorylation of ezrin. *Proteomics*, 4:2961-2968.

- Moese, S., Selbach, M., Kwok, T., Brinkmann, V., König, W., Meyer, T.F. and Backert, S. (2004) *Helicobacter pylori* induces AGS cell motility and elongation via independent signaling pathways. *Infect. Immun.*, 72:3646-3649.
- Selbach, M., Moese, S., Hurwitz, R., Hauck, C.R., Meyer, T.F. and Backert, S. (2003) The *Helicobacter pylori* CagA protein induces cortactin dephosphorylation and actin rearrangement by c-Src inactivation. *EMBO J.*, 22:515-528.
- Selbach, M., Moese, S., Hauck, C.R., Meyer, T.F. and Backert, S. (2002) Src is the kinase of the *Helicobacter pylori* CagA protein in vitro and in vivo. *J. Biol. Chem.*, 277:6775-6778.
- Selbach, M., Moese, S., Meyer, T.F. and Backert, S. (2002) Functional analysis of the *Helicobacter pylori* cag pathogenicity island reveals both VirD4-CagA-dependent and VirD4-CagA-independent mechanisms. *Infect. Immun.*, 70:665-671.
- Moese, S., Selbach, M., Meyer, T.F. and Backert, S. (2002) cag+ *Helicobacter pylori* induces homotypic aggregation of macrophage-like cells by up-regulation and recruitment of intracellular adhesion molecule 1 to the cell surface. *Infect. Immun.* 70:4687-4691.
- Backert, S., Moese, S., Selbach, M., Brinkmann, V. and Meyer, T.F. (2001) Phosphorylation of tyrosine 972 of the *Helicobacter pylori* CagA protein is essential for induction of a scattering phenotype in gastric epithelial cells. *Mol. Microbiol.*, 42:631-644.
- Kamradt, T., Rudel, T., Selbach, M., and Schaible, U.E. (2001) A new home for infection research. *Trends Microbiol.*, 9:54-56.
- Moese, S., Selbach, M., Zimny-Arndt, U., Jungblut, P.R., Meyer, T.F. and Backert, S. (2001) Identification of a tyrosine-phosphorylated 35 kDa carboxy-terminal fragment (p35CagA) of the *Helicobacter pylori* CagA protein in phagocytic cells: processing or breakage? *Proteomics*, 1:618-629.
- Selbach, M. and Kuhlmann, H.W. (1999) Structure, fluorescent properties and proposed function in phototaxis of the stigma apparatus in the ciliate *Chlamydomonas mnemosyne*. *J. Exp. Biol.*, 202:919-927.
- Selbach, M., Häder, D.P. and Kuhlmann, H.W. (1999) Phototaxis in *Chlamydomonas mnemosyne*: determination of the illuminance-response curve and the action spectrum. *J. Photochem. Photobiol. B.*, 49:35-40.