

## List of publications 2013

List of proteomics centred/related publications with involvement of GPF members. GPF authors are labelled as bold type. Publications headed by authors from scientific groups of the GRC (first or last author) are additionally labelled with ❖.

- (1) **Dihazi, H., Bohrer, R., Jahn, O., Lenz, C., Majcherczyk, A., Schmidt, B., Urlaub, H., Valerius, O., Asif, A.R.** (2013) Mass spectrometry imaging: linking molecule profiles to tissue spatial distribution. *Expert Rev Proteomics* 10, 17-20. ❖
- (2) Lehmann, S., Hoofnagle, A., Hochstrasser, D., Brede, C., Glueckmann, M., Cocho, J.A., Ceglarek, U., **Lenz, C.**, Vialaret, J., Scherl, A., Hirtz, C. (2013) IFCC Working Group on Clinical Quantitative Mass Spectrometry Proteomics (WG-cMSP). Quantitative Clinical Chemistry Proteomics (qCCP) using mass spectrometry: general characteristics and application. *Clin Chem Lab Med* 51, 919-35.
- (3) Xiang, S., Gapsys, V., Kim, H.Y., Bessonov, S., Hsiao, H.H., Möhlmann, S., Klaukien, V., Ficner, R., Becker, S., **Urlaub, H.**, Lührmann, R., de Groot, B., Zweckstetter, M. (2013) Phosphorylation drives a dynamic switch in serine/arginine-rich proteins. *Structure* 21, 2162-74. ❖
- (4) Engelke, M., Oellerich, T., Dittmann, K., Hsiao, H.H., **Urlaub, H.**, Serve, H., Griesinger, C., Wienands, J. (2013) Cutting edge: feed-forward activation of phospholipase Cy2 via C2 domain-mediated binding to SLP65. *J Immunol* 191, 5354-8. ❖
- (5) Christian, H., Hofele, R.V., **Urlaub, H.**, Ficner, R. (2013) Insights into the activation of the helicase Prp43 by biochemical studies and structural mass spectrometry. *Nucleic Acids Res* 42, 1162-79. ❖
- (6) Bhaskar, V., Roudko, V., Basquin, J., Sharma, K., **Urlaub, H.**, Séraphin, B., Conti E. (2013) Structure and RNA-binding properties of the Not1-Not2-Not5 module of the yeast Ccr4-Not complex. *Nat Struct Mol Biol* 20, 1281-8.
- (7) Kotzerke, K., Mempel, M., Aung, T., Wulf, G.G., **Urlaub, H.**, Wenzel, D., Schön, M.P., Braun, A. (2013) Immunostimulatory activity of murine keratinocyte-derived exosomes. *Exp Dermatol* 22, 650-5. ❖
- (8) Pilla, E., Kilisch, M., **Lenz, C., Urlaub, H.**, Geiss-Friedlander, R. (2013) The SUMO1-E67 interacting loop peptide is an allosteric inhibitor of the dipeptidyl peptidases 8 and 9. *J Biol Chem* 288, 32787-96. ❖
- (9) Krüger, J.M., Favaro, P.D., Liu, M., Kitlinska, A., Huang, X., Raabe, M., Akad, D.S., Liu, Y., **Urlaub, H.**, Dong, Y., Xu, W., Schlüter, O.M. (2013) Differential roles of postsynaptic density-93 isoforms in regulating synaptic transmission. *J Neurosci* 33, 15504-17. ❖
- (10) Bareth, B., Dennerlein, S., Mick, D.U., Nikolov, M., **Urlaub, H.**, Rehling, P. (2013) The heme a synthase Cox15 associates with cytochrome c oxidase assembly intermediates during Cox1 maturation. *Mol Cell Biol* 33, 4128-37. ❖
- (11) Atanassov, I., **Urlaub, H.** (2013) Increased proteome coverage by combining PAGE and peptide isoelectric focusing: comparative study of gel-based separation approaches. *Proteomics* 13, 2947-55. ❖
- (12) Shema-Yaacoby, E., Nikolov, M., Haj-Yahya, M., Siman, P., Allemand, E., Yamaguchi, Y., Muchardt, C., **Urlaub, H.**, Brik, A., Oren, M., Fischle, W. (2013) Systematic identification of proteins binding to chromatin-embedded ubiquitylated H2B reveals recruitment of SWI/SNF to regulate transcription. *Cell Rep* 4, 601-8. ❖
- (13) Sharif, H., Ozgur, S., Sharma, K., Basquin, C., **Urlaub, H.**, Conti, E. (2013) Structural analysis of the yeast Dhh1-Pat1 complex reveals how Dhh1 engages Pat1, Edc3 and RNA in mutually exclusive interactions. *Nucleic Acids Res* 41, 8377-90.
- (14) Grapp, M., Wrede, A., Schweizer, M., Hüwel, S., Galla, H.J., Snaidero, N., Simons, M., Bückers, J., Low P.S., **Urlaub, H.**, Gärtner, J., Steinfeld, R. (2013) Choroid plexus transcytosis and exosome shuttling deliver folate into brain parenchyma. *Nat Commun* 4, 2123. ❖

- (15) Samwer, M., Dehne, H.J., Spira, F., Kollmar, M., Gerlich, D.W., **Urlaub, H.**, Görlich, D. (2013) The nuclear F-actin interactome of *Xenopus* oocytes reveals an actin-bundling kinesin that is essential for meiotic cytokinesis. *EMBO J* 32, 1886-902. ❖
- (16) Ahmed, S., Wittenmayer, N., Kremer, T., Hoeber, J., Kiran Akula, A., **Urlaub, H.**, Islinger, M., Kirsch, J., Dean, C., Dresbach, T. (2013) Mover is a homomeric phospho-protein present on synaptic vesicles. *PLoS One* 8, e63474. doi: 10.1371/journal.pone.0063474. ❖
- (17) Boyken, J., Grønborg, M., Riedel, D., **Urlaub, H.**, Jahn, R., Chua, J.J. (2013) Molecular profiling of synaptic vesicle docking sites reveals novel proteins but few differences between glutamatergic and GABAergic synapses. *Neuron* 78, 285-97. ❖
- (18) Wagner, J., Ryazanov, S., Leonov, A., Levin, J., Shi, S., Schmidt, F., Prix, C., Pan-Montojo, F., Bertsch, U., Mitteregger-Kretzschmar, G., Geissen, M., Eiden, M., Leidel, F., Hirschberger, T., Deeg, A.A., Krauth, J.J., Zinth, W., Tavan, P., Pilger, J., Zweckstetter, M., Frank, T., Bähr, M., Weishaupt, J.H., Uhr, M., **Urlaub, H.**, Teichmann, U., Samwer, M., Bötzel, K., Groschup, M., Kretzschmar, H., Griesinger, C., Giese, A. (2013) Anle138b: a novel oligomer modulator for disease-modifying therapy of neurodegenerative diseases such as prion and Parkinson's disease. *Acta Neuropathol* 125, 795-813.
- (19) Naarmann-de Vries, I.S., **Urlaub, H.**, Ostareck, D.H., Ostareck-Lederer, A. (2013) Caspase-3 cleaves hnRNP K in erythroid differentiation. *Cell Death Dis* 4, e548. doi: 10.1038/cddis.2013.75.
- (20) Oellerich, T., Oellerich, M.F., Engelke, M., Münch, S., Mohr, S., Nimz, M., Hsiao, H.H., Corso, J., Zhang, J., Bohnenberger, H., Berg, T., Rieger, M.A., Wienands, J., Bug, G., Brandts, C., **Urlaub, H.**, Serve, H. (2013)  $\beta$ 2 integrin-derived signals induce cell survival and proliferation of AML blasts by activating a Syk/STAT signaling axis. *Blood* 121, 3889-99, S1-66.
- (21) Becker, J., Barysch, S.V., Karaca, S., Dittner, C., Hsiao, H.H., Berriel Diaz, M., Herzig, S., **Urlaub, H.**, Melchior, F. (2013) Detecting endogenous SUMO targets in mammalian cells and tissues. *Nat Struct Mol Biol* 20, 525-31. ❖
- (22) Schmidt, C., Hesse, D., Raabe, M., **Urlaub, H.**, **Jahn, O.** (2013) An automated in-gel digestion/iTRAQ-labeling workflow for robust quantification of gel-separated proteins. *Proteomics* 13, 1417-22. ❖
- (23) Wirth, M., Karaca, S., Wenzel, D., Ho, L., Tishkoff, D., Lombard, D.B., Verdin, E., **Urlaub, H.**, Jedrusik-Bode, M., Fischle, W. (2013) Mitochondrial SIRT4-type proteins in *Caenorhabditis elegans* and mammals interact with pyruvate carboxylase and other acetylated biotin-dependent carboxylases. *Mitochondrion* 13, 705-20. ❖
- (24) Fourmann, J.B., Schmitzová, J., Christian, H., **Urlaub, H.**, Ficner, R., Boon, K.L., Fabrizio, P., Lührmann, R. (2013) Dissection of the factor requirements for spliceosome disassembly and the elucidation of its dissociation products using a purified splicing system. *Genes Dev* 27, 413-28. ❖
- (25) Davydov, I.I., Wohlgemuth, I., Artamonova, I.I., **Urlaub, H.**, Tonevitsky, A.G., Rodnina, M.V. (2013) Evolution of the protein stoichiometry in the L12 stalk of bacterial and organellar ribosomes. *Nat Commun* 4, 1387. ❖
- (26) Werner, A., Disanza, A., Reifenberger, N., Habeck, G., Becker, J., Calabrese, M., **Urlaub, H.**, Lorenz, H., Schulman, B., Scita, G., Melchior, F. (2013) SCFFbxw5 mediates transient degradation of actin remodeller Eps8 to allow proper mitotic progression. *Nat Cell Biol* 15, 179-88. ❖
- (27) de Vries, S., Naarmann-de Vries, I.S., **Urlaub, H.**, Lue, H., Bernhagen, J., Ostareck, D.H., Ostareck-Lederer, A. (2013) Identification of DEAD-box RNA helicase 6 (DDX6) as a cellular modulator of vascular endothelial growth factor expression under hypoxia. *J Biol Chem* 288, 5815-27.
- (28) Batsukh, T., Schulz, Y., Wolf, S., Rabe, T.I., Oellerich, T., **Urlaub, H.**, Schaefer, I.M., Pauli, S. (2013) Identification and characterization of FAM124B as a novel component of a CHD7 and CHD8 containing complex. *PLoS One* 7, e52640. doi: 10.1371/journal.pone.0052640.
- (29) Thakar, K., Karaca, S., Port, S.A., **Urlaub, H.**, Kehlenbach, R.H. (2013) Identification of CRM1-dependent Nuclear Export Cargos Using Quantitative Mass Spectrometry. *Mol Cell Proteomics* 12, 664-78. ❖

- (30) Doerfel, L.K., Wohlgemuth, I., Kothe, C., Peske, F., **Urlaub, H.**, Rodnina, M.V. (2013) EF-P is essential for rapid synthesis of proteins containing consecutive proline residues. *Science* 339, 85-8. ❖
- (31) Lösing, M., Goldbeck, I., Manno, B., Oellerich, T., Schnyder, T., Bohnenberger, H., Stork, B., **Urlaub, H.**, Batista, F.D., Wienands, J., Engelke, M. (2013) The Dok-3/Grb2 protein signal module attenuates Lyn kinase-dependent activation of Syk kinase in B cell antigen receptor microclusters. *J Biol Chem* 288, 2303-13. ❖
- (32) Skora, L., Fonseca-Ornelas, L., Hofele, R.V., Riedel, D., Giller, K., Watzlawik, J., Schulz-Schaeffer, W.J., **Urlaub, H.**, Becker, S., Zweckstetter, M. (2013) Burial of the polymorphic residue 129 in amyloid fibrils of prion stop mutants. *J Biol Chem* 288, 2994-3002. ❖
- (33) Nieber, F., Hedderich, M., **Jahn, O.**, Pieler, T., Henningfeld, K. A. (2013) NumbL is essential for *Xenopus* primary neurogenesis. *BMC Dev Biol* 13, 36. ❖
- (34) Nawaz, S., Schweitzer, J., **Jahn, O.**, Werner, H. B. (2013) Molecular evolution of myelin basic protein, an abundant structural myelin component. *Glia* 61, 1364-1377. ❖
- (35) **Jahn, O.**, Tenzer, S., Bartsch, N., Patzig, J., Werner, H.B. (2013) Myelin proteome analysis: Methods and implications for the myelin cytoskeleton. In: Dermietzel, R. (ed.) *The cytoskeleton: Imaging, isolation, and interaction. Neuromethods* 79, 335-353, Springer 2013. ❖
- (36) Herbst, S., Maucher, D., Schneider, M., Ihling, C. H., **Jahn, O.**, Sinz, A. (2013) Munc13-like skMLCK variants cannot mimic the unique calmodulin binding mode of Munc13 as evidenced by chemical cross-linking and mass spectrometry. *PLoS One* 8, e75119.
- (37) Haussmann, U., **Jahn, O.**, Linning, P., Janssen, C., Liepold, T., Portelius, E., Zetterberg, H., Bauer, C., Schuchhardt, J., Knolker, H. J., Klafki, H., Wiltfang, J. (2013) Analysis of amino-terminal variants of amyloid-beta peptides by capillary isoelectric focusing immunoassay. *Anal Chem* 85, 8142-8149.
- (38) Dihazi, G. H., Bibi, A., **Jahn, O.**, Nolte, J., Mueller, G. A., Engel, W., **Dihazi, H.** (2013) Impact of the antiproliferative agent ciclopirox olamine treatment on stem cells proteome. *World J Stem Cells* 5, 9-25. ❖
- (39) Ruehl, M., **Majcherczyk, A.**, Kues, U. (2013) Lcc1 and Lcc5 are the main laccases secreted in liquid cultures of *Coprinopsis cinerea* strains. *Antonie van Leeuwenhoek* 103, 1029-1039. ❖
- (40) Rachfall N., Schmitt K., Bandau S., Smolinski N., Ehrenreich A., **Valerius O.**, Braus G.H. (2013) RACK1/Asc1p, a ribosomal node in cellular signaling. *Mol Cell Proteomics* 12, 87-105. ❖
- (41) Koch C., Tria G., Fielding A.J., Brodhun F., **Valerius O.**, Feussner K., Braus G.H., Svergun D.I., Bennati M., Feussner I. (2013) A structural model of PpoA derived from SAXS-analysis-implications for substrate conversion. *Biochim Biophys Acta* 1831, 1449-57. ❖
- (42) Dettmann A., Heilig Y., Ludwig S., Schmitt K., Illgen J., Fleißner A., **Valerius O.**, Seiler S. (2013) HAM-2 and HAM-3 are central for the assembly of the *Neuspora* STRIPAK complex at the nuclear envelope and regulate nuclear accumulation of the MAP kinase MAK-1 in a MAK-2-dependent manner. *Mol Microbiol* 90, 796-812. ❖
- (43) Harting R., Bayram O., Laubinger K., **Valerius O.**, Braus G.H. (2013) Interplay of the fungal sumoylation network for control of multicellular development. *Mol Microbiol* 90, 1125-45. ❖
- (44) Schumacher, J., Ramljak, S., **Asif, A.R.**, Schaffrath, M., Zischler, H., Herlyn, H. (2013) Evolutionary Conservation of Mammalian Sperm Proteins Associates with Overall, but not with Tyrosine Phosphorylation in Human Spermatozoa. *J Proteome Res* 12, 5370-82. ❖
- (45) Gawinecka, J., Nowak, M., Carimalo, J., Cardone, F., **Asif, A.R.**, Wemheuer, W.M., Schulz-Schaeffer, W.J., Pocchiari, M., Zerr I. (2013) Subtype-Specific Synaptic Proteome Alterations in Sporadic Creutzfeldt-Jakob Disease. *J Alzheimers Dis* 37, 51-61. ❖
- (46) **Dihazi, H.**, Dihazi, G.H., Bibi, A., Eltoweissy, M., Mueller, C.A., **Asif, A.R.**, Rubel, D., Vasko, R., Mueller, G.A. (2013) ERP57 secretion is important for extracellular matrix accumulation and renal fibrosis progression and is an earlier sign of disease onset. *J Cell Sci* 126, 3649-63. ❖
- (47) Pešić, I., Müller, G.A., Baumann, C., Dihazi, G.H., Koziolok, M.J., Eltoweissy, M., Bramlage, C., **Asif, A.R.**, **Dihazi, H.** (2013) Cellulose membranes are more effective in holding back vital

proteins and exhibit less interaction with plasma proteins during hemodialysis. *Biochim Biophys Acta* 1834, 754-62. ❖

- (48) Biswas, S., Sharma, S., Saroha, A., Bhakuni, D.S., Malhotra, R., Zahur, M., Oellerich, M., Das, H.R., **Asif, A.R.** (2013) Identification of novel autoantigen in the synovial fluid of rheumatoid arthritis patients using an immunoproteomics approach. *PLoS One* 8, e56246. ❖
- (49) Zahur, M., Asif, M.A., Zeeshan, N., Mehmood, S., Malik, M.F., **Asif, A.R.** (2013) Homeobox leucine zipper proteins and cotton improvement. *Adv Biosci Biotechnol* 4, 15-20.
- (50) Mushtaq, A., Tariq, M.Z., Rashid, U., Afroz, A., Zeeshan, N., **Asif, A.R.**, Zahur, M. (2013) Estimation of HCV viral load and liver enzymes among different patients groups of District Gujrat, Pakistan. *Adv Biosci Biotechnol* 4, 866-8714. ❖
- (51) Dieks, J.K., Gawinecka, J., **Asif, A.R.**, Varges, D., Gmitterova, K., Streich, J.H., **Dihazi, H.**, Heinemann, U., Zerr, I. (2013) Low-abundant CSF proteome alterations in dementia with Lewy bodies. *J Alzheimers Dis* 34, 387-97. ❖
- (52) Buchmaier, B.S., Bibi, A., Müller, G.A., Dihazi, G.H., Eltoweissy, M., Kruegel, J., **Dihazi, H.** (2013) Renal cells express different forms of vimentin: the independent expression alteration of these forms is important in cell resistance to osmotic stress and apoptosis. *PLoS One* 8, e68301. ❖
- (53) **Dihazi, H.** (2013) Prognosis marker for metastatic renal cell carcinoma: quantitative proteomics approach. *Expert Rev Proteomics* 10, 21-4. ❖
- (54) Schlotawa, L., Radhakrishnan, K., Baumgartner, M., Schmid, R., **Schmidt, B.**, Dierks, T., Gärtner J. (2013) Rapid degradation of an active formylglycine generating enzyme variant leads to a late infantile severe form of multiple sulfatase deficiency. *Eur J Hum Genet* 21, 1020-1023. ❖
- (55) Ennemann, E. C., Radhakrishnan, K., Mariappan, M., Wachs, M., Pringle, T. H., **Schmidt, B.**, Dierks, T. (2013) Proprotein convertases process and thereby inactivate formylglycine generating enzyme. *J Bio Chem* 288, 5828–5839.
- (56) Xu, X., Tan, X., Lin, Q., **Schmidt, B.**, Engel, W., Pantakani, D.V. (2013) Mouse Dazl and its novel splice variant functions in translational repression of target mRNAs in embryonic stem cells. *Biochim Biophys Acta* 1829, 425-35. ❖