

List of publications 2015

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

- (1) Absmeier, E., Wollenhaupt, J., Mozaffari-Jovin, S., Becke, C., Lee, C.T., Preussner, M., Heyd, F., **Urlaub, H.**, Lührmann, R., Santos, K.F., Wahl, M.C. (2015) The large N-terminal region of the Brr2 RNA helicase guides productive spliceosome activation. *Genes Dev* 29:2576-2587.
- (2) Beckmann, E.A., Köhler, A.M., Meister, C., Christmann, M., Draht, O.W., Rakebrandt, N., **Valerius, O.**, Braus, G.H. (2015) Integration of the catalytic subunit activates deneddylase activity in vivo as final step in fungal COP9 signalosome assembly. *Mol Microbiol* 97:110-124. ❖
- (3) Blaschke, S., Rinke, K., Maring, M., Flad, T., Patschan, S., **Jahn, O.**, Müller, C.A., Müller, G.A., **Dihazi, H.** (2015) Haptoglobin-alpha1, -alpha2, vitamin D-binding protein and apolipoprotein C-III as predictors of etanercept drug response in rheumatoid arthritis. *Arthritis Res Ther* 17:45. ❖
- (4) Boesler, C., Rigo, N., Agafonov, D.E., Kastner, B., **Urlaub, H.**, Will, C.L., Lührmann, R. (2015) Stable tri-snRNP integration is accompanied by a major structural rearrangement of the spliceosome that is dependent on Prp8 interaction with the 5' splice site. *RNA* 21:1993-2005. ❖
- (5) Bohnenberger, H., Strobel, P., Mohr, S., Corso, J., Berg, T., **Urlaub, H.**, **Lenz, C.**, Serve, H., Oellerich, T. (2015) Quantitative mass spectrometric profiling of cancer-cell proteomes derived from liquid and solid tumors. *J Vis Exp*:e52435. ❖
- (6) Cass, S.D., Haas, K.A., Stoll, B., Alkhnbashi, O., Sharma, K., **Urlaub, H.**, Backofen, R., Marchfelder, A., Bolt, E.L. (2015) The role of Cas8 in type I CRISPR interference. *Biosci Rep*.
- (7) Crisci, A., Raleff, F., Bagdiul, I., Raabe, M., **Urlaub, H.**, Rain, J.C., Krämer A. (2015) Mammalian splicing factor SF1 interacts with SURP domains of U2 snRNP-associated proteins. *Nucleic Acids Res* 43:10456-10473.
- (8) De, I., Bessonov, S., Hofele, R., dos Santos, K., Will, C.L., **Urlaub, H.**, Lührmann, R., Pena, V. (2015) The RNA helicase Aquarius exhibits structural adaptations mediating its recruitment to spliceosomes. *Nat Struct Mol Biol* 22:138-144. ❖
- (9) Dihazi, G.H., **Jahn, O.**, Tampe, B., Zeisberg, M., Müller, C., Müller, G.A., **Dihazi, H.** (2015) Proteomic analysis of embryonic kidney development: Heterochromatin proteins as epigenetic regulators of nephrogenesis. *Sci Rep* 5:13951. ❖
- (10) Dihazi, G.H., Müller, G.A., **Asif, A.R.**, Eltoweissy, M., Wessels, J.T., **Dihazi, H.** (2015) Proteomic characterization of adrenal gland embryonic development reveals early initiation of steroid metabolism and reduction of the retinoic acid pathway. *Proteome Sci* 13:6. ❖
- (11) Fajardo-Somera, R.A., Jöhnk, B., Bayram, O., **Valerius, O.**, Braus, G.H., Riquelme, M. (2015) Dissecting the function of the different chitin synthases in vegetative growth and sexual development in *Neurospora crassa*. *Fungal Genet Biol* 75:30-45.
- (12) Gundlach, J., Mehne, F.M., Herzberg, C., Kampf, J., **Valerius, O.**, Kaever, V., Stülke, J. (2015) An Essential Poison: Synthesis and Degradation of Cyclic Di-AMP in *Bacillus subtilis*. *J Bacteriol* 197:3265-3274. ❖
- (13) Jaimes-Arroyo, R., Lara-Rojas, F., Bayram, O., **Valerius, O.**, Braus, G.H., Aguirre, J. (2015) The SrkA Kinase Is Part of the SakA Mitogen-Activated Protein Kinase Interactome and Regulates Stress Responses and Development in *Aspergillus nidulans*. *Eukaryot Cell* 14:495-510.
- (14) Jorrín-Novo, J.V., Pascual, J., Sánchez-Lucas, R., Romero-Rodríguez, M.C., Rodríguez-Ortega, M.J., **Lenz, C.**, Valledor, L. (2015) Fourteen years of plant proteomics reflected in Proteomics: moving from model species and 2DE-based approaches to orphan species and gel-free platforms. *Proteomics* 15:1089-1112.
- (15) Kadavath, H., Hofele, R.V., Biernat, J., Kumar, S., Tepper, K., **Urlaub, H.**, Mandelkow, E., Zweckstetter, M. (2015) Tau stabilizes microtubules by binding at the interface between tubulin heterodimers. *Proc Natl Acad Sci U S A* 112:7501-7506. ❖

- (16) Khan, N., **Asif, A.R.** (2015) Transcriptional regulators of claudins in epithelial tight junctions. *Mediators Inflamm* 2015:219843. ❖
- (17) Khan, N., Pantakani, D.V., Binder, L., Qasim, M., **Asif, A.R.** (2015) Immunosuppressant MPA Modulates Tight Junction through Epigenetic Activation of MLCK/MLC-2 Pathway via p38MAPK. *Front Physiol* 6:381. ❖
- (18) Kirli, K., Karaca, S., Dehne, H.J., Samwer, M., Pan, K.T., **Lenz, C., Urlaub, H.,** Görlich, D. (2015) A deep proteomics perspective on CRM1-mediated nuclear export and nucleocytoplasmic partitioning. *Elife* 4. ❖
- (19) Kratzke, M., Candiello, E., **Schmidt, B., Jahn, O.,** Schu, P. (2015) AP-1/sigma1B-Dependent SV Protein Recycling Is Regulated in Early Endosomes and Is Coupled to AP-2 Endocytosis. *Mol Neurobiol* 52:142-161. ❖
- (20) Kuharev, J., Navarro, P., Distler, U., **Jahn, O.,** Tenzer, S. (2015) In-depth evaluation of software tools for data-independent acquisition based label-free quantification. *Proteomics* 15:3140-3151.
- (21) Kuvardina, O.N., Herglotz, J., Kolodziej, S., Kohrs, N., Herkt, S., Wojcik, B., Oellerich, T., Corso, J., Behrens, K., Kumar, A., Hussong, H., **Urlaub, H.,** Koch, J., Serve, H., Bonig, H., Stocking, C., Rieger, M.A., Lausen, J. (2015) RUNX1 represses the erythroid gene expression program during megakaryocytic differentiation. *Blood* 125:3570-3579.
- (22) Lin, C.J., Sasse, C., Gerke, J., **Valerius, O.,** Irmer, H., Frauendorf, H., Heinekamp, T., Strassburger, M., Tran, V.T., Herzog, B., Braus-Stromeyer, S.A., Braus, G.H. (2015) Transcription Factor SomA Is Required for Adhesion, Development and Virulence of the Human Pathogen *Aspergillus fumigatus*. *PLoS Pathog* 11:e1005205. ❖
- (23) Lin, T.Y., Voronovsky, A., Raabe, M., **Urlaub, H.,** Sander, B., Golas, M.M. (2015) Dual tagging as an approach to isolate endogenous chromatin remodeling complexes from *Saccharomyces cerevisiae*. *Biochim Biophys Acta* 1854:198-208.
- (24) Lüddecke, S., Ertych, N., Stenzinger, A., Weichert, W., Beissbarth, T., Dyczkowski, J., Gaedcke, J., **Valerius, O.,** Braus, G.H., Kschischo, M., Bastians, H. (2015) The putative oncogene CEP72 inhibits the mitotic function of BRCA1 and induces chromosomal instability. *Oncogene* 35:2398-2406. ❖
- (25) Lugassy, J., Corso, J., Beach, D., Petrik, T., Oellerich, T., **Urlaub, H.,** Yablonski, D. (2015) Modulation of TCR responsiveness by the Grb2-family adaptor, *Gads*. *Cell Signal* 27:125-134.
- (26) Matz, A., Lee, S.J., Schwedhelm-Domeyer, N., Zanini, D., Holubowska, A., Kannan, M., Farnworth, M., **Jahn, O.,** Göpfert, M.C., Stegmüller, J. (2015) Regulation of neuronal survival and morphology by the E3 ubiquitin ligase RNF157. *Cell Death Differ* 22:626-642. ❖
- (27) Melin, J., Kilisch, M., Neumann, P., Lytovchenko, O., Gomkale, R., Schendzielorz, A., **Schmidt, B.,** Liepold, T., Ficner, R., **Jahn, O.,** Rehling, P., Schulz, C. (2015) A presequence-binding groove in Tom70 supports import of Mdl1 into mitochondria. *Biochim Biophys Acta* 1853:1850-1859. ❖
- (28) Misdaq, M., Ziegler, S., von Ahsen, N., Oellerich, M., **Asif, A.R.** (2015) Thiopurines induce oxidative stress in T-lymphocytes: a proteomic approach. *Mediators Inflamm* 2015:434825. ❖
- (29) Oellerich, T., Mohr, S., Corso, J., Beck, J., Döbele, C., Braun, H., Cremer, A., Münch, S., Wicht, J., Oellerich, M.F., Bug, G., Bohnenberger, H., Perske, C., Schutz, E., **Urlaub, H.,** Serve, H. (2015) FLT3-ITD and TLR9 use Bruton tyrosine kinase to activate distinct transcriptional programs mediating AML cell survival and proliferation. *Blood* 125:1936-1947. ❖
- (30) Ott, C., Martens, H., Hassouna, I., Oliveira, B., Erck, C., Zafeiriou, M.-P., Peteri, U.-K., Hesse, D., Gerhart, S., Altas, B., Kolbow, T., Stadler, H., Kawabe, H., Zimmermann, W.-H., Nave, K.-A., Schulz-Schaeffer, W., **Jahn, O.,** Ehrenreich, H. (2015) Widespread expression of erythropoietin receptor in brain and its induction by injury. *Mol Med* 21:803-815. ❖
- (31) Peng, J., Alam, S., Radhakrishnan, K., Mariappan, M., Rudolph, M.G., May, C., Dierks, T., von Figura, K., **Schmidt, B.** (2015) Eukaryotic formylglycine-generating enzyme catalyses a monooxygenase type of reaction. *FEBS J* 282:3262-3274. ❖
- (32) Pleiner, T., Bates, M., Trakhanov, S., Lee, C.T., Schliep, J.E., Chug, H., Böhning, M., Stark, H., **Urlaub, H.,** Görlich, D. (2015) Nanobodies: site-specific labeling for super-resolution imaging, rapid epitope-mapping and native protein complex isolation. *Elife* 4:e11349. ❖

- (33) Port, S.A., Monecke, T., Dickmanns, A., Spillner, C., Hofele, R., **Urlaub, H.**, Ficner, R., Kehlenbach, R.H. (2015) Structural and Functional Characterization of CRM1-Nup214 Interactions Reveals Multiple FG-Binding Sites Involved in Nuclear Export. *Cell Rep* 13:690-702. ❖
- (34) Qamar, S., Kramer, K., **Urlaub, H.** (2015) Studying RNA-Protein Interactions of Pre-mRNA Complexes by Mass Spectrometry. *Methods Enzymol.* 558:417-63. ❖
- (35) Ramljak, S., Schmitz, M., Zafar, S., Wrede, A., Schenkel, S., **Asif, A.R.**, Carimalo, J., Doepfner, T.R., Schulz-Schaeffer, W.J., Weise, J., Zerr, I. (2015) Cellular prion protein directly interacts with and enhances lactate dehydrogenase expression under hypoxic conditions. *Exp Neurol* 271:155-167. ❖
- (36) Reuss, B., Schroten, H., Ishikawa, H., **Asif, A.R.** (2015) Cross-reactivity of Antibodies Directed to the Gram-Negative Bacterium *Neisseria gonorrhoeae* With Heat Shock Protein 60 and ATP-Binding Protein Correlates to Reduced Mitochondrial Activity in HIBCPP Choroid Plexus Papilloma Cells. *J Mol Neurosci* 57:123-138. ❖
- (37) Ritz, S., Schottler, S., Kotman, N., Baier, G., Musyanovych, A., Kuharev, J., Landfester, K., Schild, H., **Jahn, O.**, Tenzer, S., Mailander, V. (2015) Protein corona of nanoparticles: distinct proteins regulate the cellular uptake. *Biomacromolecules* 16:1311-1321.
- (38) Sakin, V., Richter, S.M., Hsiao, H.H., **Urlaub, H.**, Melchior, F. (2015) Sumoylation of the GTPase Ran by the RanBP2 SUMO E3 Ligase Complex. *J Biol Chem* 290:23589-23602.
- (39) Salat, D., Winkler, A., **Urlaub, H.**, Gessler, M. (2015) Hey bHLH Proteins Interact with a FBXO45 Containing SCF Ubiquitin Ligase Complex and Induce Its Translocation into the Nucleus. *PLoS One* 10:e0130288.
- (40) Sharma, K., Hrle, A., Kramer, K., Sachsenberg, T., Staals, R.H., Randau, L., Marchfelder, A., van der Oost, J., Kohlbacher, O., Conti, E., **Urlaub, H.** (2015) Analysis of protein-RNA interactions in CRISPR proteins and effector complexes by UV-induced cross-linking and mass spectrometry. *Methods* 89:138-148. ❖
- (41) Timm, T., **Lenz, C.**, Merkel, D., Sadiffo, C., Grabitzki, J., Klein, J., Lochnit, G. (2015) Detection and site localization of phosphorylcholine-modified peptides by NanoLC-ESI-MS/MS using precursor ion scanning and multiple reaction monitoring experiments. *J Am Soc Mass Spectrom* 26:460-471.
- (42) Wilkins, B.J., Hahn, L.E., Heitmüller, S., Frauendorf, H., **Valerius, O.**, Braus, G.H., Neumann, H. (2015) Genetically encoding lysine modifications on histone H4. *ACS Chem Biol* 10:939-944. ❖
- (43) Wohlgemuth, I., **Lenz, C.**, **Urlaub, H.** (2015) Studying macromolecular complex stoichiometries by peptide-based mass spectrometry. *Proteomics* 15:862-879. ❖
- (44) Zaman, U., Richter, F.M., Hofele, R., Kramer, K., Sachsenberg, T., Kohlbacher, O., **Lenz, C.**, **Urlaub, H.** (2015) Dithiothreitol (DTT) Acts as a Specific, UV-inducible Cross-linker in Elucidation of Protein-RNA Interactions. *Mol Cell Proteomics* 14:3196-3210. ❖
- (45) Zerche, M., Weissenborn, K., Ott, C., Dere, E., **Asif, A.R.**, Worthmann, H., Hassouna, I., Rentzsch, K., Tryc, A.B., Dahm, L., Steiner, J., Binder, L., Wiltfang, J., Siren, A.L., Stocker, W., Ehrenreich, H. (2015) Preexisting Serum Autoantibodies Against the NMDAR Subunit NR1 Modulate Evolution of Lesion Size in Acute Ischemic Stroke. *Stroke* 46:1180-1186. ❖