

List of publications 2012

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) Tirard, M., Hsiao, H.H., Nikolov, M., **Urlaub, H.**, Melchior, F., Brose, N. (2012) In vivo localization and identification of SUMOylated proteins in the brain of His6-HA-SUMO1 knock-in mice. *Proc Natl Acad Sci U S A* 109, 21122-7. ❖
- (2) Labokha, A.A., Gradmann, S., Frey, S., Hülsmann, B.B., **Urlaub, H.**, Baldus, M., Görlich, D. (2012) Systematic analysis of barrier-forming FG hydrogels from *Xenopus* nuclear pore complexes. *EMBO J* 32, 204-18. ❖
- (3) Sinigalia, E., Alvisi, G., Segré, C.V., Mercorelli, B., Muratore, G., Winkler, M., Hsiao, H.H., **Urlaub, H.**, Ripalti, A., Chiocca, S., Palù, G., Loregian, A. (2012) The human cytomegalovirus DNA polymerase processivity factor UL44 is modified by SUMO in a DNA-dependent manner. *PLoS One* 7, e49630. doi: 10.1371/journal.pone.0049630.
- (4) Mozaffari-Jovin, S., Santos, K.F., Hsiao, H.H., Will, C.L., **Urlaub, H.**, Wahl, M.C., Lührmann, R. (2012) The Prp8 RNase H-like domain inhibits Brr2-mediated U4/U6 snRNA unwinding by blocking Brr2 loading onto the U4 snRNA. *Genes Dev* 26, 2422-34. ❖
- (5) Jaspers, M.H., Nolde, K., Behr, M., Joo, S.H., Plessmann, U., Nikolov, M., **Urlaub, H.**, Schuh, P. (2012) The claudin Megatrachea protein complex. *J Biol Chem* 287, 36756-65. ❖
- (6) Schulz, S., Chachami, G., Kozaczekiewicz, L., Winter, U., Stankovic-Valentin, N., Haas, P., Hofmann, K., **Urlaub, H.**, Ovaa, H., Wittbrodt, J., Meulmeester, E., Melchior, F. (2012) Ubiquitin-specific protease-like 1 (USPL1) is a SUMO isopeptidase with essential, non-catalytic functions. *EMBO Rep* 13, 930-8. ❖
- (7) Girard, C., Will, C.L., Peng, J., Makarov, E.M., Kastner, B., Lemm, I., **Urlaub, H.**, Hartmuth, K., Lührmann, R. (2012) Post-transcriptional spliceosomes are retained in nuclear speckles until splicing completion. *Nat Commun* 3, 994. ❖
- (8) Borsarelli, C.D., Falomir-Lockhart, L.J., Ostatná, V., Fauerbach, J.A., Hsiao, H.H., **Urlaub, H.**, Paleček, E., Jares-Erijman, E.A., Jovin, T.M. (2012) Biophysical properties and cellular toxicity of covalent crosslinked oligomers of α -synuclein formed by photoinduced side-chain tyrosyl radicals. *Free Radic Biol Med* 53, 1004-15. ❖
- (9) Thorn, A., Steinfeld, R., Ziegenbein, M., Grapp, M., Hsiao, H.H., **Urlaub, H.**, Sheldrick, G.M., Gärtner, J., Krätzner, R. (2012) Structure and activity of the only human RNase T2. *Nucleic Acids Res* 40, 8733-42. ❖
- (10) Himmel, S., Zschiedrich, C.P., Becker, S., Hsiao, H.H., Wolff, S., Diethmaier, C., **Urlaub, H.**, Lee, D., Griesinger, C., Stülke, J. (2012) Determinants of interaction specificity of the *Bacillus subtilis* GlcT antitermination protein: functionality and phosphorylation specificity depend on the arrangement of the regulatory domains. *J Biol Chem* 287, 27731-42. ❖
- (11) Hsiao, H.H., Meulmeester, E., **Urlaub, H.** (2012) Identification of endogenous SUMO1 acceptor sites by mass spectrometry. *Methods Mol Biol* 893, 431-41. ❖
- (12) Schmidt, C., **Urlaub, H.** (2012) Absolute quantification of proteins using standard peptides and multiple reaction monitoring. *Methods Mol Biol* 893, 249-65. ❖
- (13) Nikolov, M., Schmidt, C., **Urlaub, H.** (2012) Quantitative mass spectrometry-based proteomics: an overview. *Methods Mol Biol* 893, 85-100. ❖
- (14) Schmidt, C., Kramer, K., **Urlaub, H.** (2012) Investigation of protein-RNA interactions by mass spectrometry - Techniques and applications. *J Proteomics* 75, 3478-94. ❖
- (15) Emami-Nemini, A., Gohla, A., **Urlaub, H.**, Lohse, M.J., Klenk, C. (2012) The guanine nucleotide exchange factor Vav2 is a negative regulator of parathyroid hormone receptor/Gq signaling. *Mol Pharmacol* 82, 217-25.

- (16) Melero, R., Buchwald, G., Castaño, R., Raabe, M., Gil, D., Lázaro, M., **Urlaub, H.**, Conti, E., Llorca, O. (2012) The cryo-EM structure of the UPF-EJC complex shows UPF1 poised toward the RNA 3' end. *Nat Struct Mol Biol* 19, 498-505, S1-2.
- (17) Sterkel, M., Oliveira, P.L., **Urlaub, H.**, Hernandez-Martinez, S., Rivera-Pomar, R., Ons, S. (2012) OKB, a novel family of brain-gut neuropeptides from insects. *Insect Biochem Mol Biol* 42, 466-73.
- (18) Schmitzová, J., Rasche, N., Dybkov, O., Kramer, K., Fabrizio, P., **Urlaub, H.**, Lührmann, R., Pena, V. (2012) Crystal structure of Cwc2 reveals a novel architecture of a multipartite RNA-binding protein. *EMBO J* 31, 2222-34. ❖
- (19) Manrique-Hoyos, N., Jürgens, T., Grønborg, M., Kreutzfeldt, M., Schedensack, M., Kuhlmann, T., Schrick, C., Brück, W., **Urlaub, H.**, Simons, M., Merkler, D. (2012) Late motor decline after accomplished remyelination: impact for progressive multiple sclerosis. *Ann Neurol* 71, 227-44. ❖
- (20) Strasser, D., Neumann, K., Bergmann, H., Marakalala, M.J., Guler, R., Rojowska, A., Hopfner, K.P., Brombacher, F., **Urlaub, H.**, Baier, G., Brown, G.D., Leitges, M., Ruland, J. (2012) Syk kinase-coupled C-type lectin receptors engage protein kinase C- σ to elicit Card9 adaptor-mediated innate immunity. *Immunity* 36, 32-42.
- (21) Lacoux, C., Di Marino, D., Boyl, P.P., Zalfa, F., Yan, B., Ciotti, M.T., Falconi, M., **Urlaub, H.**, Achsel, T., Mougin, A., Caizergues-Ferrer, M., Bagni, C. (2012) BC1-FMRP interaction is modulated by 2'-O-methylation: RNA-binding activity of the tudor domain and translational regulation at synapses. *Nucleic Acids Res* 40, 4086-96.
- (22) Alkhaja, A.K., Jans, D.C., Nikolov, M., Vukotic, M., Lytovchenko, O., Ludewig, F., Schliebs, W., Riedel, D., **Urlaub, H.**, Jakobs, S., Deckers, M. (2012) MINOS1 is a conserved component of mitofilin complexes and required for mitochondrial function and cristae organization. *Mol Biol Cell* 23, 247-57. ❖
- (23) Lemeer, S., Kunold, E., Klaeger, S., Raabe, M., Towers, M.W., Claudes, E., Arrey, T.N., Strupat, K., **Urlaub, H.**, Küster, B. (2012) Phosphorylation site localization in peptides by MALDI MS/MS and the Mascot Delta Score. *Anal Bioanal Chem* 402, 249-60.
- (24) de Monasterio-Schrader, P., **Jahn, O.**, Tenzer, S., Wichert, S. P., Patzig, J., Werner, H. B. (2012) Systematic approaches to central nervous system myelin. *Cell Mol Life Sci* 69, 2879-2894. ❖
- (25) Otto, M., Bowser, R., Turner, M., Berry, J., Brettschneider, J., Connor, J., Costa, J., Cudkowicz, M., Glass, J., **Jahn, O.**, Lehnert, S., Malaspina, A., Parnetti, L., Petzold, A., Shaw, P., Sherman, A., Steinacker, P., Sussmuth, S., Teunissen, C., Tumani, H., Wuolikainen, A., Ludolph, A. (2012) Roadmap and standard operating procedures for biobanking and discovery of neurochemical markers in ALS. *Amyotroph Lateral Scler* 13, 1-10.
- (26) Lipstein, N., Schaks, S., Dimova, K., Kalkhof, S., Ihling, C., Kolbel, K., Ashery, U., Rhee, J., Brose, N., Sinz, A., **Jahn, O.** (2012) Nonconserved Ca(2+)/calmodulin binding sites in Munc13s differentially control synaptic short-term plasticity. *Mol Cell Biol* 32, 4628-4641. ❖
- (27) Jesse, S., Lehnert, S., **Jahn, O.**, Parnetti, L., Soininen, H., Herukka, S. K., Steinacker, P., Tawfik, S., Tumani, H., von Arnim, C. A., Neumann, M., Kretzschmar, H. A., Kulaksiz, H., Lenter, M., Wiltfang, J., Ferger, B., Hengerer, B., Otto, M. (2012) Differential sialylation of serpin A1 in the early diagnosis of Parkinson's disease dementia. *PLoS One* 7, e48783.
- (28) Floerl, S., **Majcherczyk, A.**, Possienke, M., Feussner, K., Tappe, H., Gatz, C., Feussner, I., Kues, U., Polle, A. (2012) *Verticillium longisporum* infection affects the leaf apoplastic proteome, metabolome, and cell wall properties in *Arabidopsis thaliana*. *PLoS One* 7, e31435. ❖
- (29) Bayram, Ö., Bayram, Ö.S., **Valerius, O.**, Jöhnk, B., and Braus, G.H. (2012) Identification of protein complexes from filamentous fungi with tandem affinity purification. *Methods Mol Biol* 191-205. ❖
- (30) Bayram, Ö., Bayram, Ö.S., Ahmed, Y.L., Maruyama, J., **Valerius, O.**, Rizzoli, S.O., Ficner, R., Irniger, S., and Braus, G.H. (2012) The *Aspergillus nidulans* MAPK module AnSte11-Ste50-Ste7-Fus3 controls development and secondary metabolism. *PLoS Genet* 8, 1-19. ❖

- (31) Hillebrand, M., Gersting, S.W., Lotz-Havla, A.S., Schäfer, A., Rosewich, H., **Valerius, O.**, Muntau, A.C., and Gärtner, J. (2012) Identification of a new fatty acid synthesis-transport machinery at the peroxisomal membrane. *J Biol Chem* 287, 210-21. ❖
- (32) Retnoningrum, D.S., Pramesti, H.T., Santika, P.Y., **Valerius, O.**, Asjarie, S., and Suciati, T. (2012) Codon optimization for high level expression of human bone morphogenetic protein-2 in Escherichia coli. *Protein Expr Purif* 84, 188-194.
- (33) von Zeska Kress, M.R., Harting, R., Bayram, Ö., Christmann, M., Irmer, H., **Valerius, O.**, Schinke, J., Goldman, G.H., and Braus, G.H. (2012) The COP9 signalosome counteracts the accumulation of cullin SCF ubiquitin E3 RING ligases during fungal development. *Mol Microbiol* 83, 1162-77. ❖
- (34) Singh, S., Braus-Stromeyer, S.A., Timpner, C., **Valerius, O.**, von Tiedemann, A., Karlovsky, P., Druebert, C., Polle, A., Braus, G.H. (2012) The plant host Brassica napus induces in the pathogen Verticillium longisporum the expression of functional catalase peroxidase which is rewired for the late phase of disease. *Mol Plant Microbe Interact* 25, 569-81. ❖
- (35) Carnarius, C., Kreir, M., Krick, M., Methfessel, C., Moehrle, V., **Valerius, O.**, Brüggemann, A., Steinem, C., Fertig, N. (2012) Green fluorescent protein changes the conductance of connexin 43 (Cx43) hemichannels reconstituted in planar lipid bilayers. *J Biol Chem* 287, 2877-86. ❖
- (36) Hoppert, M., Valdez, M., Enseleit, M., Theilmann, W., **Valerius, O.**, Braus, G.H., Föst, C., Liebl, W. (2012) Structure-functional analysis of the Dictyoglomus cell envelope. *Syst Appl Microbiol* 35, 279-90. ❖
- (37) Nasim, F.F.-H., Ejaz, S., Ashraf, M., **Asif, A.R.**, Oellerich, M., Ahmad, G., Malik, G.A., Attiq, U.R. (2012) Potential Biomarkers in the Sera of Breast Cancer Patients from Bahawalpur, Pakistan. *Biomarkers in Cancer* 4, 19-34.
- (38) Gawinecka, J., Cardone, F., **Asif, A.R.**, Pascalis, A.D., Wemheuer, W.M., Schulz-Schaeffer, W.J., Pocchiari, M., Zerr I. (2012) sCJD subtype-specific alterations of brain proteome: impact on Rab3a recycling. *Proteomics* 12, 3610-20.
- (39) Misdaq, M., Andag, R., Oellerich, M., **Asif, A.R.**, von Ahsen, N. (2012) Establishment of Thiopurine S-Methyltransferase Gene Knockdown in Jurkat T-lymphocytes: An In Vitro Model of TPMT Polymorphism. *Ther Drug Monit* 34, 584-92. ❖
- (40) Zahid, S., Oellerich, M., **Asif, A.R.**, Ahmed, N. (2012) Phosphoproteome profiling of substantia nigra and cortex regions of Alzheimer's disease patients. *J Neurochem* 121, 954-63. ❖
- (41) Lang, C., Hildebrandt, A., Brand, F., Opitz, L., **Dihazi, H.**, Lüder, C.G. (2012) Impaired Chromatin Remodelling at STAT1-Regulated Promoters Leads to Global Unresponsiveness of Toxoplasma gondii-Infected Macrophages to IFN- γ . *PLoS Pathog* 8, e1002483. ❖
- (42) Koziolok, M.J., Tampe, D., Bähr, M., **Dihazi, H.**, Jung, K., Fitzner, D., Klingel, R., Müller, G.A., Kitze, B. (2012) Immunoabsorption therapy in patients with multiple sclerosis with steroid-refractory optical neuritis. *J Neuroinflammation* 9, 80.
- (43) Koziolok, M.J., Datta, R.R., Mattes, H., Jung, K., Heise, D., Streich, J.H., Mühlhausen, J., Mueller, G.A., **Dihazi H.** (2012) Predictors of renal replacement therapy in acute kidney injury. *Nephron Extra* 2, 247-255. ❖
- (44) Reinhold, R., Krüger, V., Meinecke, M., Schulz, C., **Schmidt, B.**, Grunau, S.D., Guiard, B., Wiedemann, N., van der Laan, M., Wagner, R., Rehling, P., Dudek, J. (2012) The channel-forming Sym1 protein is transported by the TIM23 complex in a presequence-independent manner. *Mol Cell Biol* 32, 5009-5021. ❖
- (45) Makrypidi, G., Damme, M., Müller-Loennies, S., Trusch, M., **Schmidt, B.**, Schlüter, H., Heeren, J., Lübke, T., Saftig, P., and Braulke, T. (2012) Mannose 6-dephosphorylation of lysosomal proteins mediated by acid phosphatases Acp2 and Acp5. *Mol Cell Biol* 32, 774-782.