

List of publications 2016

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) Agafonov, D.E., Kastner, B., Dybkov, O., Hofele, R.V., Liu, W.T., **Urlaub, H.**, Lührmann, R., and Stark, H. (2016) Molecular architecture of the human U4/U6.U5 tri-snRNP. *Science* 351, 1416-1420. ❖
- (2) Agafonov, D.E., van Santen, M., Kastner, B., Dube, P., Will, C.L., **Urlaub, H.**, and Lührmann, R. (2016) ATPγS stalls splicing after B complex formation but prior to spliceosome activation. *RNA* 22, 1329-1337. ❖
- (3) Azizian, A., Epping, I., Kramer, F., Jo, P., Bernhardt, M., Kitz, J., Salinas, G., Wolff, H.A., Grade, M., **Beißbarth, T.**, Ghadimi B.M., and Gaedcke J. (2016) Prognostic Value of MicroRNAs in Preoperative Treated Rectal Cancer. *Int J Mol Sci* 17, 568. ❖
- (4) Bareth, B., Nikolov, M., Lorenzi, I., Hildenbeutel, M., Mick, D.U., Helbig, C., **Urlaub, H.**, Ott, M., Rehling, P., and Dennerlein, S. (2016) Oms1 associates with cytochrome c oxidase assembly intermediates to stabilize newly synthesized Cox1. *Mol Biol Cell* 27, 1570-1580. ❖
- (5) Beyer, I., Rezaei-Ghaleh, N., Klafki, H.W., **Jahn, O.**, Haußmann, U., Wiltfang, J., Zweckstetter, M., and Knölker, H.J. (2016) Solid-Phase Synthesis and Characterization of N-Terminally Elongated Aβ-3-x -Peptides. *Chemistry* 22, 8685-8693. ❖
- (6) Bleckmann, A., Conradi, L.C., Menck, K., Schmick, N.A., Schubert, A., Rietkötter, E., Arackal, J., Middel, P., Schambony, A., Liersch, T., Homayounfar K., **Beißbarth T.**, Klemm F., Binder C., and Pukrop T. (2016) β-catenin-independent WNT signaling and Ki67 in contrast to the estrogen receptor status are prognostic and associated with poor prognosis in breast cancer liver metastases. *Clin Exp Metastasis* 33, 309-323. ❖
- (7) Boesler, C., Rigo, N., Anokhina, M.M., Tauchert, M.J., Agafonov, D.E., Kastner, B., **Urlaub, H.**, Ficner, R., Will, C.L., and Lührmann, R. (2016) A spliceosome intermediate with loosely associated tri-snRNP accumulates in the absence of Prp28 ATPase activity. *Nat Commun* 7, 11997. ❖
- (8) Butkevich, E., Härtig, W., Nikolov, M., Erck, C., Grosche, J., **Urlaub, H.**, Schmidt, C.F., Klopfenstein, D.R., and Chua, J.J. (2016) Phosphorylation of FEZ1 by Microtubule Affinity Regulating Kinases regulates its function in presynaptic protein trafficking. *Sci Rep* 6, 26965. ❖
- (9) Callegari, S., Richter, F., Chojnacka, K., Jans, D.C., Lorenzi, I., Pacheu-Grau, D., Jakobs, S., **Lenz, C.**, **Urlaub, H.**, Dudek, J., Chacinska A., and Rehling P. (2016) TIM29 is a subunit of the human carrier translocase required for protein transport. *FEBS Lett* 590, 4147-4158. ❖
- (10) Castillo-Gomez, E., Kästner, A., Steiner, J., Schneider, A., Hettling, B., Poggi, G., Ostehr, K., Uhr, M., **Asif, A.R.**, Matzke, M., Schmidt U., Pfander V., Hammer C., Schulz T.F., Binder L., Stöcker W., Weber F., and Ehrenreich H. (2016) The brain as immunoprecipitator of serum autoantibodies against N-Methyl-D-aspartate receptor subunit NR1. *Ann Neurol* 79, 144-151. ❖

- (11) Çiçek, I.Ö., Karaca, S., Brankatschk, M., Eaton, S., **Urlaub, H.**, and Shcherbata, H.R. (2016) Hedgehog Signaling Strength Is Orchestrated by the mir-310 Cluster of MicroRNAs in Response to Diet. *Genetics* 202, 1167-1183. ❖
- (12) Corso, J., Pan, K.T., Walter, R., Doebele, C., Mohr, S., Bohnenberger, H., Ströbel, P., **Lenz, C.**, Slabicki, M., Hüllein, J., Comoglio F., Rieger M.A., Zenz T., Wienands J., Engelke M., Serve H., **Urlaub H.**, and Oellerich T. (2016) Elucidation of tonic and activated B-cell receptor signaling in Burkitt's lymphoma provides insights into regulation of cell survival. *Proc Natl Acad Sci U S A* 113, 5688-5693. ❖
- (13) Cretu, C., Schmitzová, J., Ponce-Salvatierra, A., Dybkov, O., De Laurentiis, E.I., Sharma, K., Will, C.L., **Urlaub, H.**, Lührmann, R., and Pena, V. (2016) Molecular Architecture of SF3b and Structural Consequences of Its Cancer-Related Mutations. *Mol Cell* 64, 307-319. ❖
- (14) **Dihazi, H.**, Koziolk, M.J., Datta, R.R., Wallbach, M., Jung, K., Heise, D., Dihazi, G.H., Markovic, I., **Asif, A.R.**, and Müller, G.A. (2016) FABP1 and FABP3 Have High Predictive Values for Renal Replacement Therapy in Patients with Acute Kidney Injury. *Blood Purif* 42, 202-213. ❖
- (15) Eltoweissy, M., Dihazi, G.H., Müller, G.A., **Asif, A.R.**, and **Dihazi, H.** (2016) Protein DJ-1 and its anti-oxidative stress function play an important role in renal cell mediated response to profibrotic agents. *Mol Biosyst* 12, 1842-1859. ❖
- (16) Ertych, N., Stolz, A., **Valerius, O.**, Braus, G.H., and Bastians, H. (2016) CHK2-BRCA1 tumor-suppressor axis restrains oncogenic Aurora-A kinase to ensure proper mitotic microtubule assembly. *Proc Natl Acad Sci U S A* 113, 1817-1822. ❖
- (17) Fourmann, J.B., Dybkov, O., Agafonov, D.E., Tauchert, M.J., **Urlaub, H.**, Ficner, R., Fabrizio, P., and Lührmann, R. (2016) The target of the DEAH-box NTP triphosphatase Prp43 in *Saccharomyces cerevisiae* spliceosomes is the U2 snRNP-intron interaction. *Elife* 5. ❖
- (18) Gleditzsch, D., Müller-Esparza, H., Pausch, P., Sharma, K., Dwarakanath, S., **Urlaub, H.**, Bange, G., and Randau, L. (2016) Modulating the Cascade architecture of a minimal Type I-F CRISPR-Cas system. *Nucleic Acids Res* 44, 5872-5882.
- (19) Göllner, S., Oellerich, T., Agrawal-Singh, S., Schenk, T., Klein, H.U., Rohde, C., Pabst, C., Sauer, T., Lerdrup, M., Tavor, S., Stölzel F., Herold S., Ehninger G., Köhler G., Pan K.T., **Urlaub H.**, Serve H., Dugas M., Spiekermann K., Vick B., Jeremias I., Berdel W.E., Hansen K., Zelent A., Wickenhauser C., Müller L.P., Thiede C., and Müller-Tidow C. (2016) Loss of the histone methyltransferase EZH2 induces resistance to multiple drugs in acute myeloid leukemia. *Nat Med* 23, 69-78.
- (20) Heininger, A.U., Hackert, P., Andreou, A.Z., Boon, K.L., Memet, I., Prior, M., Clancy, A., **Schmidt, B.**, **Urlaub, H.**, Schleiff, E., Sloan K.E., Deckers M., Lührmann R., Enderlein J., Klostermeier D., Rehling P., and Bohnsack M.T. (2016) Protein cofactor competition regulates the action of a multifunctional RNA helicase in different pathways. *RNA Biol* 13, 320-330. ❖
- (21) Helmke, C., Raab, M., Rödel, F., Matthess, Y., Oellerich, T., Mandal, R., Sanhaji, M., **Urlaub, H.**, Rödel, C., Becker, S., and Strebhardt K. (2016) Ligand stimulation of CD95 induces activation of Plk3 followed by phosphorylation of caspase-8. *Cell Res* 26, 914-934.
- (22) Hiragami-Hamada, K., Soeroes, S., Nikolov, M., Wilkins, B., Kreuz, S., Chen, C., De La Rosa-Velázquez, I.A., Zenn, H.M., Kost, N., Pohl, W., Chernev A., Schwarzer D., Jenuwein T., Lorincz M., Zimmermann B., Walla P.J., Neumann H., Baubec T., **Urlaub H.**, and Fischle W. (2016) Dynamic and flexible H3K9me3 bridging via

- HP1beta dimerization establishes a plastic state of condensed chromatin. *Nat Commun* 7, 11310. ❖
- (23) Hofhuis, J., Schueren, F., Nötzel, C., Lingner, T., Gärtner, J., **Jahn, O.**, and Thoms, S. (2016) The functional readthrough extension of malate dehydrogenase reveals a modification of the genetic code. *Open Biol* 6. ❖
- (24) Hsu, M.F., Pan, K.T., Chang, F.Y., Khoo, K.H., **Urlaub, H.**, Cheng, C.F., Chang, G.D., Haj, F.G., and Meng, T.C. (2016) S-nitrosylation of endogenous protein tyrosine phosphatases in endothelial insulin signaling. *Free Radic Biol Med* 99, 199-213.
- (25) Jo, P., Nietert, M., Gusky, L., Kitz, J., Conradi, L.C., Müller-Dornieden, A., Schüler, P., Wolff, H.A., Ruschoff, J., Ströbel, P., Grade M., Liersch T., **Beißbarth T.**, Ghadimi M.B., Sax U., and Gaedcke J. (2016) Neoadjuvant Therapy in Rectal Cancer - Biobanking of Preoperative Tumor Biopsies. *Sci Rep* 6, 35589. ❖
- (26) Jöhnk, B., Bayram, Ö., Abelmann, A., Heinekamp, T., Mattern, D.J., Brakhage, A.A., Jacobsen, I.D., **Valerius, O.**, and Braus, G.H. (2016) SCF Ubiquitin Ligase F-box Protein Fbx15 Controls Nuclear Co-repressor Localization, Stress Response and Virulence of the Human Pathogen *Aspergillus fumigatus*. *PLoS Pathog* 12, e1005899. ❖
- (27) Justa-Schuch, D., Silva-Garcia, M., Pilla, E., Engelke, M., Kilisch, M., **Lenz, C.**, Möller, U., Nakamura, F., **Urlaub, H.**, and Geiss-Friedlander, R. (2016) DPP9 is a novel component of the N-end rule pathway targeting the tyrosine kinase Syk. *Elife* 5. ❖
- (28) Khan, N., **Lenz, C.**, Binder, L., Pantakani, D.V., and **Asif, A.R.** (2016) Active and Repressive Chromatin-Associated Proteome after MPA Treatment and the Role of Midkine in Epithelial Monolayer Permeability. *Int J Mol Sci* 17. ❖
- (29) Kleinknecht, A., Popova, B., Lázaro, D.F., Pinho, R., **Valerius, O.**, Outeiro, T.F., and Braus, G.H. (2016) C-Terminal Tyrosine Residue Modifications Modulate the Protective Phosphorylation of Serine 129 of α -Synuclein in a Yeast Model of Parkinson's Disease. *PLoS Genet* 12, e1006098. ❖
- (30) Koch, C., Neumann, P., **Valerius, O.**, Feussner, I., and Ficner, R. (2016) Crystal Structure of Alcohol Oxidase from *Pichia pastoris*. *PLoS One* 11, e0149846. ❖
- (31) Koch, H., Raabe, M., **Urlaub, H.**, Bindereif, A., and Preusser, C. (2016) The polyadenylation complex of *Trypanosoma brucei*: Characterization of the functional poly(A) polymerase. *RNA Biol* 13, 221-231.
- (32) Kohansal-Nodehi, M., Chua, J.J., **Urlaub, H.**, Jahn, R., and Czernik, D. (2016) Analysis of protein phosphorylation in nerve terminal reveals extensive changes in active zone proteins upon exocytosis. *Elife* 5. ❖
- (33) Kruppa, J., Kramer, F., **Beißbarth, T.**, and Jung, K. (2016) A simulation framework for correlated count data of features subsets in high-throughput sequencing or proteomics experiments. *Stat Appl Genet Mol Biol* 15, 401-414.
- (34) Kühn, J., Wong, L.E., Pirkuliyeva, S., Schulz, K., Schwiegk, C., Fünfgeld, K.G., Keppler, S., Batista, F.D., **Urlaub, H.**, Habeck, M., Becker S., Griesinger C., and Wienands J. (2016) The adaptor protein CIN85 assembles intracellular signaling clusters for B cell activation. *Sci Signal* 9, ra66. ❖
- (35) Lazzaretti, D., Veith, K., Kramer, K., Basquin, C., **Urlaub, H.**, Irion, U., and Bono, F. (2016) The bicoid mRNA localization factor Exuperantia is an RNA-binding pseudonuclease. *Nat Struct Mol Biol* 23, 705-713.

- (36) **Lenz, C.**, and **Dihazi, H.** (2016) Introduction to Proteomics Technologies. *Methods Mol Biol* 1362, 3-27. ❖
- (37) Levchenko, M., Wuttke, J.M., Römpler, K., **Schmidt, B.**, Neifer, K., Juris, L., Wissel, M., Rehling, P., and Deckers, M. (2016) Cox26 is a novel stoichiometric subunit of the yeast cytochrome c oxidase. *Biochim Biophys Acta* 1863, 1624-1632. ❖
- (38) Linke, F., Zaunig, S., Nietert, M.M., von Bonin, F., Lutz, S., Dullin, C., Janovska, P., **Beißbarth, T.**, Alves, F., Klapper, W., Bryja V., Pukrop T., Trümper L., Wilting J., and Kube D. (2016) WNT5A: a motility-promoting factor in Hodgkin lymphoma. *Oncogene* 36, 13-23. ❖
- (39) Lüddecke, S., Ertych, N., Stenzinger, A., Weichert, W., **Beißbarth, T.**, Dyczkowski, J., Gaedcke, J., **Valerius, O.**, Braus, G.H., Kschischo, M., and Bastians H. (2016) The putative oncogene CEP72 inhibits the mitotic function of BRCA1 and induces chromosomal instability. *Oncogene* 35, 2398-2406. ❖
- (40) Manno, B., Oellerich, T., Schnyder, T., Corso, J., Lösing, M., Neumann, K., **Urlaub, H.**, Batista, F.D., Engelke, M., and Wienands, J. (2016) The Dok-3/Grb2 adaptor module promotes inducible association of the lipid phosphatase SHIP with the BCR in a coreceptor-independent manner. *Eur J Immunol* 46, 2520-2530. ❖
- (41) Martin, S., Bellora, N., González-Vallinas, J., Irimia, M., Chebli, K., de Toledo, M., Raabe, M., Eyra, E., **Urlaub, H.**, Blencowe, B.J., Tazi J. (2016) Preferential binding of a stable G3BP ribonucleoprotein complex to intron-retaining transcripts in mouse brain and modulation of their expression in the cerebellum. *J Neurochem* 139, 349-368.
- (42) Metz, I., **Beißbarth, T.**, Ellenberger, D., Pache, F., Stork, L., Ringelstein, M., Aktas, O., Jarius, S., Wildemann, B., **Dihazi, H.**, Friede T., Brück W., Ruprecht K., and Paul F. (2016) Serum peptide reactivities may distinguish neuromyelitis optica subgroups and multiple sclerosis. *Neurol Neuroimmunol Neuroinflamm* 3, e204. ❖
- (43) Mohamed, B.A., **Asif, A.R.**, Schnelle, M., Qasim, M., Khadjeh, S., Lbik, D., Schott, P., Hasenfuss, G., and Toischer, K. (2016) Proteomic analysis of short-term preload-induced eccentric cardiac hypertrophy. *J Transl Med* 14, 149. ❖
- (44) Mühlhausen, S., Findeisen, P., Plessmann, U., **Urlaub, H.**, and Kollmar, M. (2016) A novel nuclear genetic code alteration in yeasts and the evolution of codon reassignment in eukaryotes. *Genome Res* 26, 945-955. ❖
- (45) Narayanan, P., Sondermann, J., Rouwette, T., Karaca, S., **Urlaub, H.**, Mitkovski, M., Gomez-Varela, D., and Schmidt, M. (2016) Native Piezo2 Interactomics Identifies Pericentrin as a Novel Regulator of Piezo2 in Somatosensory Neurons. *J Proteome Res* 15, 2676-2687. ❖
- (46) Rauhut, R., Fabrizio, P., Dybkov, O., Hartmuth, K., Pena, V., Chari, A., Kumar, V., Lee, C.T., **Urlaub, H.**, Kastner, B., Stark H., and Lührmann R. (2016) Molecular architecture of the *Saccharomyces cerevisiae* activated spliceosome. *Science* 353, 1399-1405. ❖
- (47) Rave-Fränk, M., Tehrani, N., Kitz, J., Leu, M., Weber, H.E., Burfeind, P., Schliephake, H., Canis, M., **Beißbarth, T.**, Reichardt, H.M., and Wolf H.A. (2016) Prognostic value of CXCL12 and CXCR4 in inoperable head and neck squamous cell carcinoma. *Strahlenther Onkol* 192, 47-54. ❖
- (48) Retnoningrum, D.S., Rahayu, A.P., Mulyanti, D., Dita, A., **Valerius, O.**, and Ismaya, W.T. (2016) Unique Characteristics of Recombinant Hybrid Manganese Superoxide Dismutase from *Staphylococcus equorum* and *S. saprophyticus*. *Protein J* 35, 136-144.

- (49) Reuss, B., **Asif, A.R.**, Almamy, A., Schwerk, C., Schroten, H., Ishikawa, H., Drummer, C., and Behr, R. (2016) Antisera against *Neisseria gonorrhoeae* cross-react with specific brain proteins of the common marmoset monkey and other nonhuman primate species. *Brain Res* 1653, 23-38. ❖
- (50) Schinke, J., Kolog Gulko, M., Christmann, M., **Valerius, O.**, Stumpf, S.K., Stirz, M., and Braus, G.H. (2016) The DenA/DEN1 Interacting Phosphatase DipA Controls Septa Positioning and Phosphorylation-Dependent Stability of Cytoplasmatic DenA/DEN1 during Fungal Development. *PLoS Genet* 12, e1005949. ❖
- (51) Seehusen, F., Kiel, K., Jottini, S., Wohlsein, P., Habierski, A., Seibel, K., Vogel, T., **Urlaub, H.**, Kollmar, M., Baumgärtner, W., and Teichmann U. (2016) Axonopathy in the Central Nervous System Is the Hallmark of Mice with a Novel Intragenic Null Mutation of Dystonin. *Genetics* 204, 191-203. ❖
- (52) Shao, Y., Richter, H., Sun, S., Sharma, K., **Urlaub, H.**, Randau, L., and Li, H. (2016) A Non-Stem-Loop CRISPR RNA Is Processed by Dual Binding Cas6. *Structure* 24, 547-554.
- (53) Sprenger, T., Rothe, H., **Beißbarth, T.**, Conradi, L.C., Kauffels, A., Homayounfar, K., Behnes, C.L., Rödel, C., Liersch, T., and Ghadimi, M. (2016) [Lymph node metastases in ypT1/2 rectal cancer after neoadjuvant chemoradiotherapy : The Achilles heel of organ-preserving operative procedures?]. *Chirurg* 87, 593-601. ❖
- (54) Sprenger, T., Rothe, H., Conradi, L.C., **Beißbarth, T.**, Kauffels, A., Kitz, J., Homayounfar, K., Wolff, H., Ströbel, P., Ghadimi, M., Wittekind C., Sauer R., Rödel C., and Liersch T. (2016) Stage-Dependent Frequency of Lymph Node Metastases in Patients With Rectal Carcinoma After Preoperative Chemoradiation: Results from the CAO/ARO/AIO-94 Trial and From a Comparative Prospective Evaluation With Extensive Pathological Workup. *Dis Colon Rectum* 59, 377-385. ❖
- (55) Strenzke, N., Chakrabarti, R., Al-Moyed, H., Müller, A., Hoch, G., Pangrsic, T., Yamanbaeva, G., **Lenz, C.**, Pan, K.T., Auge, E., Geiss-Friedlander R., **Urlaub H.**, Brose N., Wichmann C., and Reisinger E. (2016) Hair cell synaptic dysfunction, auditory fatigue and thermal sensitivity in otoferlin Ile515Thr mutants. *EMBO J* 35, 2519-2535. ❖
- (56) Tomas-Roig, J., Piscitelli, F., Gil, V., Del Rio, J.A., Moore, T.P., Agbemenyah, H., Salinas-Riester, G., Pommerenke, C., Lorenzen, S., **Beißbarth, T.**, Hoyer-Fender S., Di Marzo V., and Havemann-Reinecke U. (2016) Social defeat leads to changes in the endocannabinoid system: An overexpression of calreticulin and motor impairment in mice. *Behav Brain Res* 303, 34-43. ❖
- (57) Trivedi, R., Dihazi, G.H., Eltoweissy, M., Mishra, D.P., Mueller, G.A., and **Dihazi, H.** (2016) The antioxidant protein PARK7 plays an important role in cell resistance to Cisplatin-induced apoptosis in case of clear cell renal cell carcinoma. *Eur J Pharmacol* 784, 99-110. ❖
- (58) Trivedi, R., Müller, G.A., Rathore, M.S., Mishra, D.P., and **Dihazi, H.** (2016) Anti-Leukemic Activity of Shikonin: Role of ERP57 in Shikonin Induced Apoptosis in Acute Myeloid Leukemia. *Cell Physiol Biochem* 39, 604-616. ❖
- (59) Vasko, R., Streich, J.H., Blaschke, S., Müller, G.A., Mai, B., Kostrzewa, M., Sparbier, K., Korsten, P., Bohr, S., and **Dihazi, H.** (2016) Vimentin fragments are potential markers of rheumatoid synovial fibroblasts. *Clin Exp Rheumatol* 34, 513-520. ❖
- (60) von der Heyde, S., Sonntag, J., Kramer, F., Bender, C., Korf, U., and **Beißbarth, T.** (2016) Reconstruction of Protein Networks Using Reverse-Phase Protein Array Data. *Methods Mol Biol* 1362, 227-246. ❖

- (61) Veit, J., Sachsenberg, T., Chernev, A., Aicheler, F., **Urlaub, H.**, and Kohlbacher, O. (2016) LFQProfiler and RNP(xl): Open-Source Tools for Label-Free Quantification and Protein-RNA Cross-Linking Integrated into Proteome Discoverer. *J Proteome Res* 15, 3441-3448.
- (62) Wachter, A., and **Beißbarth, T.** (2016) Decoding Cellular Dynamics in Epidermal Growth Factor Signaling Using a New Pathway-Based Integration Approach for Proteomics and Transcriptomics Data. *Front Genet* 6, 351. ❖
- (63) Wlochowitz, D., Haubrock, M., Arackal, J., Bleckmann, A., Wolff, A., **Beißbarth, T.**, Wingender, E., and Gültas, M. (2016) Computational Identification of Key Regulators in Two Different Colorectal Cancer Cell Lines. *Front Genet* 7, 42. ❖
- (64) Zhang, J.N., Michel, U., **Lenz, C.**, Friedel, C.C., Koster, S., d'Hedouville, Z., Tönges, L., **Urlaub, H.**, Bähr, M., Lingor, P., and Koch J.C. (2016) Calpain-mediated cleavage of collapsin response mediator protein-2 drives acute axonal degeneration. *Sci Rep* 6, 37050. ❖