

5. Literaturverzeichnis

- Abeijon, C., Mandon, E.C. und Hirschberg, C.B. (1997) Transporters of nucleotide sugars, nucleotide sulfate and ATP in the Golgi apparatus. *Trends Biochem Sci*, **6**: 203-7.
- Ahner, A. und Brodsky, J.L. (2004) Checkpoints in ER-associated degradation: excuse me, which way to the proteasome? *Trends Cell Biol*, **9**: 474-8.
- Ahner, A., Nakatsukasa, K., Zhang, H., Frizzell, R.A. und Brodsky, J.L. (2007) Small heat-shock proteins select deltaF508-CFTR for endoplasmic reticulum-associated degradation. *Mol Biol Cell*, **3**: 806-14.
- Allan, B.B., Moyer, B.D. und Balch, W.E. (2000) Rab1 recruitment of p115 into a cis-SNARE complex: programming budding COPII vesicles for fusion. *Science*, **289**: 444-8.
- Anelli, T. und Sitia, R. (2008) Protein quality control in the early secretory pathway. *EMBO J*, **27**: 315-27. Review.
- Appenzeller-Herzog, C. und Hauri, H.P. (2006) The ER-Golgi intermediate compartment (ERGIC): in search of its identity and function. *J Cell Sci*, **119**: 2173-83. Review.
- Arakawa, T., Kita, Y., Ejima, D., Tsumoto, K. und Fukada, H. (2006) Aggregation suppression of proteins by arginine during thermal unfolding. *Protein Pept Lett*, **13**: 921-7.
- Arvan, P., Zhao, X., Ramos-Castaneda, J. und Chang, A. (2002) Secretory pathway quality control operating in Golgi, plasmalemmal, and endosomal systems. *Traffic*, **11**: 771-80. Review.
- Bannykh, S.I., Nishimura, N. und Balch, W.E. (1998) Getting into the Golgi. *Trends Cell Biol*, **1**: 21-5.
- Ben-Tekaya, H., Miura, K., Pepperkok, R. und Hauri, H.P. (2005) Live imaging of bidirectional traffic from the ERGIC. *J Cell Sci*, **118**: 357-67.
- Bonifacino, J.S., Cosson, P. und Klausner, R.D. (1990) Colocalized transmembrane determinants for ER degradation and subunit assembly explain the intracellular fate of TCR chains. *Cell*, **63**: 503-13.
- Bonifacino, J.S., Cosson, P., Shah, N. und Klausner, R.D. (1991) Role of potentially charged transmembrane residues in targeting proteins for retention and degradation within the endoplasmic reticulum. *EMBO J*, **10**: 2783-93.

- Bonifacino, J.S. und Glick, B.S. (2004) The mechanisms of vesicle budding and fusion. *Cell*, **116**: 153-66.
- Beard, M., Satoh, A., Shorter, J. und Warren, G. (2005) A cryptic rab1-binding site in the p115 tethering protein. *J. Biol. Chem.*, **280**: 25840-48.
- Breuza, L., Halbeisen, R., Jenö, P., Otte, S., Barlowe, C., Hong, W. und Hauri, H.P. (2004) Proteomics of endoplasmic reticulum-Golgi intermediate compartment (ERGIC) membranes from brefeldin A-treated HepG2 cells identifies ERGIC-32, a new cycling protein that interacts with human Erv46. *J Biol Chem*, **279**: 47242-53.
- Brodsky, J.L. (1998) Translocation of proteins across the endoplasmic reticulum membrane. *Int Rev Cytol*, **178**: 277-328.
- Bukau, B. und Horwich, A.L. (1998) The Hsp70 and Hsp60 chaperone machines. *Cell*, **92**: 351-66. Review.
- Bukau, B. (1999) Molecular Chaperones and Folding Catalysts: Regulation, Cellular Functions and Mechanisms. *CRC Press*, Boca Raton-London.
- Bukau, B., Weissman, J. und Horwich, A. (2006) Molecular chaperones and protein quality control. *Cell*, **125**: 443-51. Review.
- Cabibbo, A., Pagani, M., Fabbri, M., Rocchi, M., Farmery, M.R., Bulleid, N.J. und Sitia, R. (2000) ERO1-L, a human protein that favors disulfide bond formation in the endoplasmic reticulum. *J Biol Chem*, **275**: 4827-33.
- Caldwell, S.R., Hill, K.J. und Cooper, A.A. (2001) Degradation of endoplasmic reticulum (ER) quality control substrates requires transport between the ER and Golgi. *J Biol Chem*, **276**: 23296-303.
- Cao, X., Ballew, N. und Barlowe, C. (1998) Initial docking of ER-derived vesicles requires Uso1p and Ypt1p but is independent of SNARE proteins. *EMBO J*, **17**: 2156-65.
- Carlile, G.W., Robert, R., Zhang, D., Teske, K.A., Luo, Y., Hanrahan, J.W. und Thomas, D.Y. (2007) Correctors of protein trafficking defects identified by a novel high-throughput screening assay. *Chembiochem*, **8**: 1012-20.
- Case, D.A. (2002) Molecular dynamics and NMR spin relaxation in proteins. *Acc Chem Res*, **35**: 325-31. Review.
- Carvalho, P., Goder, V. und Rapoport, T.A. (2006) Distinct ubiquitin-ligase complexes define convergent pathways for the degradation of ER proteins. *Cell*, **126**: 361-73.
- Cherezov, V., Rosenbaum, D.M., Hanson, M.A., Rasmussen, S.G., Thian, F.S., Kobilka, T.S., Choi, H.J., Kuhn, P., Weis, W.I., Kobilka, B.K. und Stevens, R.C. (2007) High-

- resolution crystal structure of an engineered human beta2-adrenergic G protein-coupled receptor. *Science*, **318**: 1258-65.
- Christianson, J.C., Shaler, T.A., Tyler, R.E. und Kopito, R.R. (2008) OS-9 and GRP94 deliver mutant alpha1-antitrypsin to the Hrd1-SEL1L ubiquitin ligase complex for ERAD. *Nat Cell Biol*, **10**: 272-82.
- Conn, P.M., Ulloa-Aguirre, A., Ito, J. und Janovick, J.A. (2007) G protein-coupled receptor trafficking in health and disease: lessons learned to prepare for therapeutic mutant rescue in vivo. *Pharmacol Rev*, **59**:225-50. Review.
- Ellgaard, L. und Frickel, E.M. (2003) Calnexin, calreticulin, and ERp57: teammates in glycoprotein folding. *Cell Biochem Biophys*, **39**: 223-47.
- Ellgaard, L. und Helenius, A. (2003) Quality control in the endoplasmic reticulum. *Nat Rev Mol Cell Biol*, **4**: 181-91.
- Fan, J.Y., Roth, J. und Zuber, C. (2003) Ultrastructural analysis of transitional endoplasmic reticulum and pre-Golgi intermediates: a highway for cars and trucks. *Histochem Cell Biol*, **120**: 455-63.
- Forster, M.L., Sivick, K., Park, Y.N., Arvan, P., Lencer, W.I. und Tsai, B. (2006) Protein disulfide isomerase-like proteins play opposing roles during retrotranslocation. *J Cell Biol*, **173**: 853-9.
- Frau, E., Sam, H., Korobelnik, J.F. und Chauvaud, D. (1993) Retinal detachment after cataract surgery: retrospective study of 57 cases. *Eur J Ophthalmol*, **3**: 177-80.
- Fayadat, L. und Kopito, R.R. (2003) Recognition of a single transmembrane degron by sequential quality control checkpoints. *Mol Biol Cell*, **14**: 1268-78.
- Ferreira, T., Mason, A.B., Pypaert, M., Allen, K.E. und Slayman, C.W. (2002) Quality control in the yeast secretory pathway: a misfolded PMA1 H+-ATPase reveals two checkpoints. *J Biol Chem*, **277**: 21027-40.
- Gilbert, A., Jadot, M., Leontieva, E., Wattiaux-De Coninck, S. und Wattiaux, R. (1998) Delta F508 CFTR localizes in the endoplasmic reticulum-Golgi intermediate compartment in cystic fibrosis cells. *Exp Cell Res*, **242**: 144-52.
- Guenzi, S., Fra, A.M., Sparvoli, A., Bet, P., Rocco, M. und Sitia, R. (1994) Efficiency of cysteine-mediated intracellular retention determines the differential fate of secretory IgA and IgM in B and plasma cells. *Eur J Immunol*, **24**: 2477-82.
- Hammond, C., Braakman, I. und Helenius, A. (1994) Role of N-linked oligosaccharide recognition, glucose trimming, and calnexin in glycoprotein folding and quality control. *Proc Natl Acad Sci U S A*, **91**: 913-7.

- Hammond, A.T. und Glick, B.S. (2000) Dynamics of transitional endoplasmic reticulum sites in vertebrate cells. *Mol Biol Cell*, **11**: 3013-30.
- Hauri, H.P., Kappeler, F., Andersson, H. und Appenzeller, C. (2000a) ERGIC-53 and traffic in the secretory pathway. *J Cell Sci*, **113**: 587-96.
- Hauri, H.P., Appenzeller, C., Kuhn, F. und Nufer, O. (2000b) Lectins and traffic in the secretory pathway. *FEBS Lett*, **476**: 32-7.
- Hermosilla, R., Oueslati, M., Donalies, U., Schönenberger, E., Krause, E., Oksche, A., Rosenthal, W. und Schülein, R. (2004) Disease-causing V(2) vasopressin receptors are retained in different compartments of the early secretory pathway. *Traffic*, **5**: 993-1005.
- Hong, S., Kim, S.J., Ka, S., Choi, I. und Kang, S. (2002) USP7, a ubiquitin-specific protease, interacts with ataxin-1, the SCA1 gene product. *Mol Cell Neurosci*, **20**: 298-306.
- Kappeler, F., Klopfenstein, D.R., Foguet, M., Paccaud, J.P. und Hauri, H.P. (1997) The recycling of ERGIC-53 in the early secretory pathway. ERGIC-53 carries a cytosolic endoplasmic reticulum-exit determinant interacting with COPII. *J Biol Chem*, **272**: 31801-8.
- Kaufmann, J.E., Oksche, A., Wollheim, C.B., Günther, G., Rosenthal, W. und Vischer, U.M. (2000) Vasopressin-induced von Willebrand factor secretion from endothelial cells involves V2 receptors and cAMP. *J Clin Invest*, **106**: 107-16.
- Kerem, E., Corey, M., Kerem, B.S., Rommens, J., Markiewicz, D., Levison, H., Tsui, L.C. und Durie, P. (1990) The relation between genotype and phenotype in cystic fibrosis--analysis of the most common mutation (delta F508). *N Engl J Med*, **323**: 1517-22.
- Kishore, B.K., Mandon, B., Oza, N.B., DiGiovanni, S.R., Coleman, R.A., Ostrowski, N.L., Wade, J.B. und Knepper, M.A. (1996) Rat renal arcade segment expresses vasopressin-regulated water channel and vasopressin V2 receptor. *J Clin Invest*, **97**: 2763-71.
- Kleizen, B. und Braakman, I. (2004) Protein folding and quality control in the endoplasmic reticulum. *Curr Opin Cell Biol*, **16**: 343-9. Review.
- Klumperman, J., Schweizer, A., Clausen, H., Tang, B.L., Hong, W., Oorschot, V. und Hauri, H.P. (1998) The recycling pathway of protein ERGIC-53 and dynamics of the ER-Golgi intermediate compartment. *J Cell Sci*, **111**: 3411-25.
- Klussmann, E., Maric, K. und Rosenthal, W. (2000). The mechanisms of aquaporin control in the renal collecting duct. *Rev Physiol Biochem Pharmacol*, **141**: 33-95. Review.

- Krause, G., Hermosilla, R., Oksche, A., Rutz, C., Rosenthal, W. und Schülein, R. (2000) Molecular and conformational features of a transport-relevant domain in the C-terminal tail of the vasopressin V(2) receptor. *Mol Pharmacol*, **57**: 232-42.
- Kleizen, B. und Braakman, I. (2004) Protein Folding and Quality Control in the Endoplasmic reticulum. *Curr Opin Cell Biol*, **16**: 343-349.
- Lodish, H., Berk, A., Zipursky, S.L. und Darnell J. (1996) Molekulare Zellbiologie. de Gruyter GmbH, Berlin-New York.
- Laskowski, R.A., Moss, D.S. und Thornton, J.M. (1993) Main-chain bond lengths and bond angles in protein structures. *J Mol Biol*, **231**: 1049-67.
- Letourneur, F., Gaynor, E.C., Hennecke, S., Démollière, C., Duden, R., Emr, S.D., Riezman, H. und Cosson, P. (1994) Coatomer is essential for retrieval of dityrosine-tagged proteins to the endoplasmic reticulum. *Cell*, **79**: 1199-207.
- Li, J., Edwards, P.C., Burghammer, M., Villa, C. und Schertler, G.F. (2004) Structure of bovine rhodopsin in a trigonal crystal form. *J Mol Biol*, **343**: 1409-38.
- Liu, J., Schöneberg, T., van Rhee, M. und Wess, J. (1995) Mutational analysis of the relative orientation of transmembrane helices I and VII in G protein-coupled receptors. *J Biol Chem*, **270**: 19532-9.
- Lukacs, G.L., Mohamed, A., Kartner, N., Chang, X.B., Riordan, J.R. und Grinstein, S. (1994) Conformational maturation of CFTR but not its mutant counterpart (delta F508) occurs in the endoplasmic reticulum and requires ATP. *Embo J*, **13**: 6076-86.
- Marinissen, M. J. und J. S. Gutkind (2001) G-protein-coupled receptors and signalling networks: emerging paradigms. *Trends Pharmacol Sci*, **22**: 368-76.
- Mizobe, T., Maze, M., Lam, V., Suryanarayana, S. und Kobilka, B.K. (1996) Arrangement of transmembrane domains in adrenergic receptors. Similarity to bacteriorhodopsin. *J Biol Chem*, **271**: 2387-9.
- Molinari, M. und Helenius, A. (2000) Chaperone Selection During Glycoprotein Translocation into the Endoplasmic Reticulum. *Science*, **288**: 331-333.
- Molinari, M., Eriksson, K.K., Calanca, V., Galli, C., Cresswell, P., Michalak, M. und Helenius, A. (2004) Contrasting functions of calreticulin and calnexin in glycoprotein folding and ER quality control. *Mol Cell*, **13**: 125-35.
- Morello, J.P., Salahpour, A., Laperriere, A., Bernier, V., Arthus, M.F., Lonergan, M., Petaja-Repo, U., Angers, S., Morin, D., Bichet, D.G. und Bouvier M (2000) Pharmacological

- Chaperones Rescue Cell-Surface Expression and Function of Misfolded V2 Vasopressin Receptor Mutants. *J Clin Invest*, **105**: 887-895.
- Morello, J.P., Salahpour, A., Petäjä-Repo, U.E., Laperrière, A., Lonergan, M., Arthus, M.F., Nabi, I.R., Bichet, D.G. und Bouvier, M. (2001) Association of calnexin with wild type and mutant AVPR2 that causes nephrogenic diabetes insipidus. *Biochemistry*, **40**: 6766-75.
- Multhoff, G. (2007) Heat shock protein 70 (Hsp70): membrane location, export and immunological relevance. *Methods*, **43**: 229-37. Review.
- Mellman, I. und Simons, K. (1992) The Golgi complex: in vitro veritas? *Cell*, **68**: 829-40.
- Mezghrani, A., Fassio, A., Benham, A., Simmen, T., Braakman, I. und Sitia, R. (2001) Manipulation of oxidative protein folding and PDI redox state in mammalian cells. *EMBO J*, **20**: 6288-96.
- Müller-Esterl, W., Brandt, U. und Anderka, O. (2004) Biochemie. Eine Einführung für Mediziner und Naturwissenschaftler. Elsevier GmbH, Spektrum Akademischer Verlag, Heidelberg-Berlin.
- Mironov, A.A., Mironov, A.A. Jr., Beznoussenko, G.V., Trucco, A., Lupetti, P., Smith, J.D., Geerts, W.J., Koster, A.J., Burger, K.N., Martone, M.E., Deerinck, T.J., Ellisman, M.H. und Luini, A. (2003) ER-to-Golgi carriers arise through direct en bloc protrusion and multistage maturation of specialized ER exit domains. *Dev Cell*, **5**: 583-94.
- Moyer, B.D., Allan, B.B. und Balch, W.E. (2001) Rab1 interaction with a GM130 effector complex regulates COPII vesicle cis--Golgi tethering. *Traffic*, **2**: 268-76.
- Ni, M. und Lee, A.S. (2007) ER chaperones in mammalian development and human diseases. *FEBS Lett*, **581**: 3641-51. Review.
- Nishikawa, S. und Nakano, A. (1993) Identification of a gene required for membrane protein retention in the early secretory pathway. *Proc Natl Acad Sci U S A*, **90**: 8179-83.
- Nonoguchi, H., Owada, A., Kobayashi, N., Takayama, M., Terada, Y., Koike, J., Ujiie, K., Marumo, F., Sakai, T. und Tomita, K. (1995) Immunohistochemical localization of V2 vasopressin receptor along the nephron and functional role of luminal V2 receptor in terminal inner medullary collecting ducts. *J Clin Invest*, **96**: 1768-78.
- Okada, T. (2004) X-ray crystallographic studies for ligand-protein interaction changes in rhodopsin. *Biochem Soc Trans*, **32**: 738-41. Review.
- Okazaki, Y., Ohno, H., Takase, K., Ochiai, T. und Saito, T. (2000) Cell surface expression of calnexin, a molecular chaperone in the endoplasmic reticulum. *J Biol Chem*, **275**: 35751-8.

- Oksche, A., Dehe, M., Schülein, R., Wiesner, B. und Rosenthal, W. (1998) Folding and Cell Surface Expression of the Vasopressin V2 Receptor: Requirement of the Intracellular C-Terminus. *FEBS Lett.*, **424**: 57-62.
- Oksche, A. und Rosenthal, W. (1998) The molecular basis of nephrogenic diabetes insipidus. *Journal of Molecular Medicine*, **76**: 326-37.
- Oksche, A., Leder, G., Valet, S., Platzer, M., Hasse, K., Geist, S., Krause, G., Rosenthal, A. und Rosenthal W. (2002) Variant amino acids in the extracellular loops of murine and human vasopressin V2 receptors account for differences in cell surface expression and ligand affinity. *Mol Endocrinol*, **16**: 799-813.
- Oueslati, M. (2005) Qualitätskontrolle von Membranproteinen im endoplasmatischen Retikulum und endoplasmatischen Retikulum-Golgi-Intermediärkompartiment. Dissertation. Fachbereich Biologie, Chemie, Pharmazie. FU-Berlin.
- Oueslati, M., Hermosilla, R., Schönenberger, E., Oorschot, V., Beyermann, M., Wiesner, B., Schmidt, A., Klumperman, J., Rosenthal, W. und Schülein, R. (2007) Rescue of a nephrogenic diabetes insipidus-causing vasopressin V2 receptor mutant by cell-penetrating peptides. *J Biol Chem*, **282**: 20676-85.
- Palczewski, K., Kumada, T., Hori, T., Behnke, C.A., Motoshima, H., Fox, B.A., Le, T.I., Teller, D.C., Okada, T., Stenkamp, R. E., Yamamoto, M. und Miyano, M. (2000) Crystal Structure of Rhodopsin: a G-Protein-Coupled Receptor. *Science*, **289**: 739-745.
- Papp, E und Csermely, P. (2006) Chemical chaperones: mechanisms of action and potential use. *Handb Exp Pharmacol*, **172**: 405-16.
- Pagani, M., Fabbri, M., Benedetti, C., Fassio, A., Pilati, S., Bulleid, N.J., Cabibbo, A. und Sitia, R. (2000) Endoplasmic reticulum oxidoreductin 1-lbeta (ERO1-Lbeta), a human gene induced in the course of the unfolded protein response. *J Biol Chem*, **275**: 23685-92.
- Rabouille, C. und Klumperman, J. (2005) Opinion: The maturing role of COPI vesicles in intra-Golgi transport. *Nat Rev Mol Cell Biol*, **6**: 812-7.
- Renner, A. (2004) Funktionelle Bedeutung des Signalpeptids des Corticotropin-Releasing-Faktor Rezeptors 2a. Diplomarbeit. Leibniz-Institut für Molekulare Pharmakologie (FMP) Berlin. Fakultät für Biologie, Julius-Maximilians-Universität Würzburg.
- Ruddock, L.W. und Molinari, M. (2006) N-glycan processing in ER quality control. *J Cell Sci*, **119**: 4373-80.

- Rosenbaum, D.M., Cherezov, V., Hanson, M.A., Rasmussen, S.G., Thian, F.S., Kobilka, T.S., Choi, H.J., Yao, X.J., Weis, W.I., Stevens, R.C. und Kobilka, B.K. (2007) GPCR engineering yields high-resolution structural insights into beta2-adrenergic receptor function. *Science*, **318**: 1266-73.
- Rosenthal, W., Seibold, A., Antaramian, A., Lonergan, M., Arthus, M.F., Hendy, G.N., Birnbaumer, M. und Bichet, D.G. (1992) Molecular identification of the gene responsible for congenital nephrogenic diabetes insipidus. *Nature*, **359**: 233-5.
- Rozell, T.G., Davis, D.P., Chai, Y. und Segaloff, D.L. (1998) Association of gonadotropin receptor precursors with the protein folding chaperone calnexin. *Endocrinology*, **139**: 1588-93.
- Sadeghi, H.M., Innamorati, G., Dagarag, M. und Birnbaumer, M. (1997) Palmitoylation of the V2 vasopressin receptor. *Mol Pharmacol*, **52**: 21-9.
- Sadeghi, H. und Birnbaumer, M. (1999) O-Glycosylation of the V2 vasopressin receptor. *Glycobiology*, **9**: 731-7.
- Sato, K., Nishikawa, S. und Nakano, A. (1995) Membrane protein retrieval from the Golgi apparatus to the endoplasmic reticulum (ER): characterization of the RER1 gene product as a component involved in ER localization of Sec12p. *Mol Biol Cell*, **6**: 1459-77.
- Sato, K., Sato, M. und Nakano, A. (2001) Rer1p, a retrieval receptor for endoplasmic reticulum membrane proteins, is dynamically localized to the Golgi apparatus by coatomer. *J Cell Biol*, **152**: 935-44.
- Sato, M., Sato, K. und Nakano, A. (1996) Endoplasmic reticulum localization of Sec12p is achieved by two mechanisms: Rer1p-dependent retrieval that requires the transmembrane domain and Rer1p-independent retention that involves the cytoplasmic domain. *J Cell Biol*, **134**: 279-93.
- Sato, K., Sato, M. und Nakano, A. (1997) Rer1p as common machinery for the endoplasmic reticulum localization of membrane proteins. *Proc Natl Acad Sci U S A*, **94**: 9693-8.
- Sato, M., Sato, K. und Nakano, A. (2004) Endoplasmic reticulum quality control of unassembled iron transporter depends on Rer1p-mediated retrieval from the golgi. *Mol Biol Cell*, **15**: 1417-24.
- Schmidt, A., Wiesner, B., Weisshart, K., Schulz, K., Furkert, J., Lamprecht, B., Rosenthal, W. und Schülein, R. (2009) Use of Kaede fusions to visualize recycling of g protein-coupled receptors. *Traffic*, **10**: 2-15.

- Schülein, R., Rutz, C. und Rosenthal, W. (1996) Membrane targeting and determination of transmembrane topology of the human vasopressin V2 receptor. *J Biol Chem*, **271**: 28844-52.
- Schülein, R., Lorenz, D., Oksche, A., Wiesner, B., Hermosilla, R., Ebert, J. und Rosenthal, W. (1998a). Polarized cell surface expression of the green fluorescent protein-tagged vasopressin V2 receptor in Madin Darby canine kidney cells. *FEBS Lett*, **441**: 170-6.
- Schülein, R., Hermosilla, R., Oksche, A., Dehe, M., Wiesner, B., Krause, G. und Rosenthal, W. (1998b) A dileucine sequence and an upstream glutamate residue in the intracellular carboxyl terminus of the vasopressin V2 receptor are essential for cell surface transport in COS.M6 cells. *Mol Pharmacol*, **54**: 525-35.
- Schülein, R., Zühlke, K., Oksche, A., Hermosilla, R., Ferkert, J. und Rosenthal, W. (2000) The role of conserved extracellular cysteine residues in vasopressin V2 receptor function and properties of two naturally occurring mutant receptors with additional extracellular cysteine residues. *FEBS Lett*, **466**:101-6. Erratum in: *FEBS Lett*, **473**: 124.
- Schülein, R. (2004) The early stages of the intracellular transport of membrane proteins: clinical and pharmacological implications. *Rev Physiol Biochem Pharmacol*, **151**: 45-91. Review.
- Semenza, J.C., Hardwick, K.G., Dean, N. und Pelham, H.R. (1990) ERD2, a yeast gene required for the receptor-mediated retrieval of luminal ER proteins from the secretory pathway. *Cell*, **61**: 1349-57.
- Shenoy, S.K. und Lefkowitz, R.J. (2003) Multifaceted roles of beta-arrestins in the regulation of seven-membrane-spanning receptor trafficking and signalling. *Biochem J*, **375**: 503-15. Review.
- Siffroi-Fernandez, S., Giraud, A., Lanet, J. und Franc, J.L. (2002) Association of the thyrotropin receptor with calnexin, calreticulin and BiP. Effects on the maturation of the receptor. *Eur J Biochem*, **269**: 4930-7.
- Spear, E.D. und Ng, D.T. (2003) Stress tolerance of misfolded carboxypeptidase Y requires maintenance of protein trafficking and degradative pathways. *Mol Biol Cell*, **14**: 2756-67.
- Sapperstein, S.K., Lupashin, V.V., Schmitt, H.D. und Waters, M.G. (1996) Assembly of the ER to Golgi SNARE complex requires Uso1p. *J Cell Biol*, **132**: 755-67.
- Saraste, J. und Svensson, K. (1991) Distribution of the intermediate elements operating in ER to Golgi transport. *J Cell Sci*, **100**: 415-30.

- Shorter, J., Beard, M.B., Seemann, J., Dirac-Svejstrup, A.B. und Warren, G. (2002) Sequential tethering of Golgins and catalysis of SNAREpin assembly by the vesicle-tethering protein p115. *J Cell Biol*, **157**: 45-62.
- Schweizer, A., Fransen, J.A., Bächi, T., Ginsel, L. und Hauri, H.P. (1988) Identification, by a monoclonal antibody, of a 53-kD protein associated with a tubulo-vesicular compartment at the cis-side of the Golgi apparatus. *J Cell Biol*, **107**: 1643-53.
- Schweizer, A., Fransen, J.A., Matter, K., Kreis, T.E., Ginsel, L., Hauri, H.P. (1990) Identification of an intermediate compartment involved in protein transport from endoplasmic reticulum to Golgi apparatus. *Eur J Cell Biol*, **53**: 185-96.
- Schweizer, A., Clausen, H., van Meer, G. und Hauri, H.P. (1994) Localization of O-glycan initiation, sphingomyelin synthesis, and glucosylceramide synthesis in Vero cells with respect to the endoplasmic reticulum-Golgi intermediate compartment. *J Biol Chem*, **269**: 4035-41.
- Schwieger, I., Lautz, K., Krause, E., Rosenthal, W., Wiesner, B. und Hermosilla, R. (2008) Derlin-1 and p97/valosin-containing protein mediate the endoplasmic reticulum-associated degradation of human V2 vasopressin receptors. *Mol Pharmacol*, **73**: 697-708.
- Sesso, A., de Faria, F.P., Iwamura, E.S. und Corrêa, H. (1994) A three-dimensional reconstruction study of the rough ER-Golgi interface in serial thin sections of the pancreatic acinar cell of the rat. *J Cell Sci*, **107**: 517-28.
- Sitia, R. und Meldolesi, J. (1992) Endoplasmic reticulum: a dynamic patchwork of specialized subregions. *Mol Biol Cell*, **3**: 1067-72.
- Sönnichsen, B., Lowe, M., Levine, T., Jämsä, E., Dirac-Svejstrup, B. und Warren, G. (1998) A role for giantin in docking COPI vesicles to Golgi membranes. *J Cell Biol*, **140**: 1013-21.
- Spiess, M. (1995) Heads or tails--what determines the orientation of proteins in the membrane. *FEBS Lett*, **369**: 76-9.
- Stephens, D.J. und Pepperkok, R. (2001) Illuminating the secretory pathway: when do we need vesicles? *J Cell Sci*, **114**: 1053-9.
- Taguchi, D., Takeda, T., Kakigi, A., Takumida, M., Nishioka, R. und Kitano, H. (2007) Expressions of aquaporin-2, vasopressin type 2 receptor, transient receptor potential channel vanilloid (TRPV)1, and TRPV4 in the human endolymphatic sac. *Laryngoscope*, **117**: 695-8.

- Unger, V.M., Hargrave, P.A., Baldwin, J.M. und Schertler, G.F. (1997) Arrangement of Rhodopsin Transmembrane Alpha-Helices. *Nature* **389**: 203-206.
- Vashist, S., Kim, W., Belden, W.J., Spear, E.D., Barlowe, C. und Ng, D.T. (2001) Distinct retrieval and retention mechanisms are required for the quality control of endoplasmic reticulum protein folding. *J Cell Biol*, **155**: 355-68.
- Vashist, S. und Ng, D.T. (2004) Misfolded proteins are sorted by a sequential checkpoint mechanism of ER quality control. *J Cell Biol*, **165**: 41-52.
- Welch, W.J. und Howard, M. (2000) Antagonists to the Rescue. *J Clin Invest* **105**: 853-854.
- Wüller, S., Wiesner, B., Löffler, A., Ferkert, J., Krause, G., Hermosilla, R., Schaefer, M., Schülein, R., Rosenthal, W. und Oksche, A. (2004) Pharmacochaperones post-translationally enhance cell surface expression by increasing conformational stability of wild-type and mutant vasopressin V2 receptors. *J Biol Chem*, **279**: 47254-63.
- Wilkinson, B. und Gilbert, H.F. (2004) Protein disulfide isomerase. *Biochim Biophys Acta*, **1699**: 35-44.
- Yamamoto, K., Fujii, R., Toyofuku, Y., Saito, T., Koseki, H., Hsu, V.W. und Aoe, T. (2001) The KDEL receptor mediates a retrieval mechanism that contributes to quality control at the endoplasmic reticulum. *EMBO J*, **20**: 3082-91.
- Yangthara, B., Mills, A., Chatsudhipong, V., Tradtrantip, L. und Verkman, A.S. (2007) Small-molecule vasopressin-2 receptor antagonist identified by a g-protein coupled receptor "pathway" screen. *Mol Pharmacol*, **72**: 86-94.
- Yeagle, P.L., Alderfer, J.L. und Albert, A.D. (1997) Three-dimensional structure of the cytoplasmic face of the G protein receptor rhodopsin. *Biochemistry*, **36**: 9649-54.
- Zhang, J.X., Braakman, I., Matlack, K.E. und Helenius, A. (1997) Quality control in the secretory pathway: the role of calreticulin, calnexin and BiP in the retention of glycoproteins with C-terminal truncations. *Mol Biol Cell*, **8**: 1943-54.
- Zhang, X., Wang, Y., Li, H., Zhang, W., Wu, D. und Mi, H. (2004) The mouse FKBP23 binds to BiP in ER and the binding of C-terminal domain is interrelated with Ca²⁺ concentration. *FEBS Lett*, **559**: 57-60.
- Zeuschner, D., Geerts, W.J., van Donselaar, E., Humbel, B.M., Slot, J.W., Koster, A.J. und Klumperman, J. (2006) Immuno-electron tomography of ER exit sites reveals the existence of free COPII-coated transport carriers. *Nat Cell Biol*, **8**: 377-83.