

VI References

1. Achiriloaie, M., Barylko, B., and Albanesi, J.P. (1999). Essential role of the dynamin pleckstrin homology domain in receptor-mediated endocytosis. *Mol. Cell Biol.* *19*, 1410-1415.
2. Altschuler, Y., Barbas, S.M., Terlecky, L.J., Tang, K., Hardy, S., Mostov, K.E., and Schmid, S.L. (1998). Redundant and distinct functions for dynamin-1 and dynamin-2 isoforms. *J. Cell Biol.* *143*, 1871-1881.
3. Artalejo, C.R., Lemmon, M.A., Schlessinger, J., and Palfrey, H.C. (1997). Specific role for the PH domain of dynamin-1 in the regulation of rapid endocytosis in adrenal chromaffin cells. *EMBO J.* *16*, 1565-1574.
4. Austin, C., Hanners, I., and Tooze, S.A. (2000). Direct and GTP-dependent interaction of ADP-ribosylation factor 1 with clathrin adaptor protein AP-1 on immature secretory granules. *J. Biol. Chem.* *275*, 21862-21869.
5. Baba, T., Ueda, H., Terada, N., Fujii, Y., and Ohno, S. (1999). Immunocytochemical study of endocytotic structures accumulated in HeLa cells transformed with a temperature-sensitive mutant of dynamin. *J. Histochem. Cytochem.* *47*, 637-648.
6. Backer, J.S. (1995). New alleles of *mgm1*: a gene encoding a protein with a GTP-binding domain related to dynamin. *Curr. Genet.* *28*, 499-501.
7. Bannykh, S.I., Nishimura, N., and Balch, W.E. (1998). Getting into the Golgi. *Trends Cell Biol.* *8*, 21-25.
8. Barr, F.A., Leyte, A., Mollner, S., Pfeuffer, T., Tooze, S.A., and Huttner, W.B. (1991). Trimeric G-proteins of the trans-Golgi network are involved in the formation of constitutive secretory vesicles and immature secretory granules. *FEBS Lett.* *294*, 239-243.
9. Barylko, B., Binns, D., Lin, K.M., Atkinson, M.A., Jameson, D.M., Yin, H.L., and Albanesi, J.P. (1998). Synergistic activation of dynamin GTPase by Grb2 and phosphoinositides. *J. Biol. Chem.* *273*, 3791-3797.
10. Beckers, C.J.M. and Rothman, J.E. (1992). Transport between Golgi cisternae. *Meth. Enzymol.* *219*, 5-12.
11. Bhatnagar, R. S. and Gough, C. A. Circular dichroism of collagen and related polypeptides. Fasman, G. D. 183-199. 1996. New York and London, Plenum Press. Circular dichroism and the conformational analysis of biomolecules.

=====

12. Bomsel,M. and Mostov,K.E. (1993). Possible role of both the alpha and beta gamma subunits of the heterotrimeric G protein, Gs, in transcytosis of the polymeric immunoglobulin receptor. *J.Biol.Chem.* 268, 25824-25835.
 13. Brown,W.J. and Farquhar,M.G. (1984). Accumulation of coated vesicles bearing mannose 6-phosphate receptors for lysosomal enzymes in the Golgi region of I-cell fibroblasts. *Proc.Natl.Acad.Sci.U.S.A.* 81, 5135-5139.
 14. Bunemann,M. and Hosey,M.M. (1999). G-protein coupled receptor kinases as modulators of G-protein signalling. *J.Physiol.Lond.* 517, 5-23.
 15. Burgoyne,R.D. and Morgan,A. (1998). Analysis of regulated exocytosis in adrenal chromaffin cells: insights into NSF/SNAP/SNARE function. *Bioessays* 20, 328-335.
 16. Cao,H., Garcia,F., and McNiven,M.A. (1998b). Differential distribution of dynamin isoforms in mammalian cells. *Mol.Biol.Cell* 9, 2595-2609.
 17. Cao,H., Thompson,H.M., Krueger,E.W., and McNiven,M.A. (2000). Disruption of golgi structure and function in mammalian cells expressing a mutant dynamin [In Process Citation]. *J.Cell Sci.*2000.Jun.;113.(Pt.11):1993.-2002. 113 (Pt 11), 1993-2002.
 18. Cao,X., Ballew,N., and Barlowe,C. (1998a). Initial docking of ER-derived vesicles requires Uso1p and Ypt1p but is independent of SNARE proteins. *EMBO J.* 17, 2156-2165.
 19. Carr,J.F. and Hinshaw,J.E. (1997). Dynamin assembles into spirals under physiological salt conditions upon the addition of GDP and gamma-phosphate analogues. *J.Biol.Chem.* 272, 28030-28035.
 20. Caumont,A.S., Galas,M.C., Vitale,N., Aunis,D., and Bader,M.F. (1998). Regulated exocytosis in chromaffin cells. Translocation of ARF6 stimulates a plasma membrane-associated phospholipase D. *J.Biol.Chem.* 273, 1373-1379.
 21. Ceresa,B.P. and Schmid,S.L. (2000). Regulation of signal transduction by endocytosis. *Curr.Opin.Cell Biol.* 12 , 204-210.
 22. Cestra,G., Castagnoli,L., Dente,L., Minenkova,O., Petrelli,A., Migone,N., Hoffmuller,U., Schneider,M.J., and Cesareni,G. (1999). The SH3 domains of endophilin and amphiphysin bind to the proline-rich region of synaptojanin 1 at distinct sites that display an unconventional binding specificity. *J.Biol.Chem.* 274, 32001-32007.
-

23. Chapman,E.R., An,S., Barton,N., and Jahn,R. (1994). SNAP-25, a t-SNARE which binds to both syntaxin and synaptobrevin via domains that may form coiled coils. *J.Biol.Chem.* 269, 27427-27432.
 24. Chavrier,P. and Goud,B. (1999). The role of ARF and Rab GTPases in membrane transport. *Curr.Opin.Cell Biol.* 11, 466-475.
 25. Chen,M.S., Obar,R.A., Schroeder,C.C., Austin,T.W., Poodry,C.A., Wadsworth,S.C., and Vallee,R.B. (1991). Multiple forms of dynamin are encoded by shibire, a Drosophila gene involved in endocytosis. *Nature* 351, 583-586.
 26. Chen,Y.H., Yang,J.T., and Chau,K.H. (1974). Determination of the helix and beta form of proteins in aqueous solution by circular dichroism. *Biochemistry* 13, 3350-3359.
 27. Chu,P., Murray,S., Lissin,D., and von Zastrow,M. (1997). Delta and kappa opioid receptors are differentially regulated by dynamin-dependent endocytosis when activated by the same alkaloid agonist. *J.Biol.Chem.* 272, 27124-27130.
 28. Cockcroft,S. (1998). Phosphatidylinositol transfer proteins: a requirement in signal transduction and vesicle traffic. *Bioessays* 20, 423-432.
 29. Cook,T.A., Urrutia,R., and McNiven,M.A. (1994). Identification of dynamin 2, an isoform ubiquitously expressed in rat tissues. *Proc.Natl.Acad.Sci.U.S.A.* 91, 644-648.
 30. Corvera,S. and Czech,M.P. (1998). Direct targets of phosphoinositide 3-kinase products in membrane traffic and signal transduction. *Trends Cell Biol.* 8, 442-446.
 31. Corvera,S., D'Arrigo,A., and Stenmark,H. (1999). Phosphoinositides in membrane traffic. *Curr.Opin.Cell Biol.* 11, 460-465.
 32. d'Enfert,C., Wuestehube,L.J., Lila,T., and Schekman,R. (1991). Sec12p-dependent membrane binding of the small GTP-binding protein Sar1p promotes formation of transport vesicles from the ER. *J.Cell Biol.* 114, 663-670.
 33. D'Souza,S.C., Li,G., Colombo,M.I., and Stahl,P.D. (1995). A regulatory role for ARF6 in receptor-mediated endocytosis. *Science* 267, 1175-1178.
 34. Damke,H. (1996). Dynamin and receptor-mediated endocytosis. *FEBS Lett.* 389, 48-51.
 35. Damke,H., Baba,T., Warnock,D.E., and Schmid,S.L. (1994). Induction of mutant dynamin specifically blocks endocytic coated vesicle formation. *J.Cell Biol.* 127, 915-934.
-

36. David,C., McPherson,P.S., Mundigl,O., and De Camilli,P. (1996). A role of amphiphysin in synaptic vesicle endocytosis suggested by its binding to dynamin in nerve terminals. *Proc.Natl.Acad.Sci.U.S.A* 93, 331-335.
 37. De,V.L., Elenko,E., McCaffery,J.M., Fischer,T., Hubler,L., McQuistan,T., Watson,N., and Farquhar,M.G. (1998). RGS-GAIP, a GTPase-activating protein for Galphai heterotrimeric G proteins, is located on clathrin-coated vesicles. *Mol.Biol.Cell* 9, 1123-1134.
 38. Dell'Angelica,E.C., Mullins,C., and Bonifacino,J.S. (1999). AP-4, a novel protein complex related to clathrin adaptors. *J.Biol.Chem.* 274, 7278-7285.
 39. Dell'Angelica,E.C., Ohno,H., Ooi,C.E., Rabinovich,E., Roche,K.W., and Bonifacino,J.S. (1997). AP-3: an adaptor-like protein complex with ubiquitous expression. *EMBO J.* 16, 917-928.
 40. Devarajan,P., Stabach,P.R., Mann,A.S., Ardito,T., Kashgarian,M., and Morrow,J.S. (1996). Identification of a small cytoplasmic ankyrin (AnkG119) in the kidney and muscle that binds beta I sigma spectrin and associates with the Golgi apparatus. *J.Cell Biol.* 133, 819-830.
 41. Diatloff,Z.C., Gordon,A.J., Duchaud,E., and Merlin,G. (1995). Isolation of an ubiquitously expressed cDNA encoding human dynamin II, a member of the large GTP-binding protein family. *Gene* 163, 301-306.
 42. Dittie,A.S., Hajibagheri,N., and Tooze,S.A. (1996). The AP-1 adaptor complex binds to immature secretory granules from PC12 cells, and is regulated by ADP-ribosylation factor. *J.Cell Biol.* 132, 523-536.
 43. Domin,J., Gaidarov,I., Smith,M.E., Keen,J.H., and Waterfield,M.D. (2000). The class II phosphoinositide 3-kinase PI3K-C2alpha is concentrated in the trans-Golgi network and present in clathrin-coated vesicles. *J.Biol.Chem.* 275, 11943-11950.
 44. Donaldson,J.G. and Klausner,R.D. (1994). ARF: a key regulatory switch in membrane traffic and organelle structure. *Curr.Opin.Cell Biol.* 6, 527-532.
 45. Dong,J., Misselwitz,R., Welfler,H., and Westermann,P. (2000b). Expression and Purification of Dynamin II Domains and Initial Studies on Structure and Function. *Protein Expr.Purif.* 20, 314-323.
 46. Dong,J., Radau,B., Otto,A., Muller,E., Lindschauc1 C, and Westermann,P. (2000a). Profilin I attached to the Golgi is required for the formation of constitutive transport vesicles at the trans-Golgi network. *Biochim.Biophys.Acta* 2000.Jul.21;1497.(2):253.-260. 1497, 253-260.
-

47. Downing,A.K., Driscoll,P.C., Gout,I., Salim,K., Zvelebil,M.J., and Waterfield,M.D. (1994). Three-dimensional solution structure of the pleckstrin homology domain from dynamin. *Curr.Biol.* *4*, 884-891.
 48. Earnest,S., Khokhlatchev,A., Albanesi,J.P., and Barylko,B. (1996). Phosphorylation of dynamin by ERK2 inhibits the dynamin- microtubule interaction. *FEBS Lett.* *396*, 62-66.
 49. Ellinwood,N.M., McCue,J.M., Gordy,P.W., and Bowen,R.A. (1998). Cloning and characterization of cDNAs for a bovine (*Bos taurus*) Mx protein. *J.Interferon.Cytokine.Res.* *18*, 745-755.
 50. Ellis,S. and Mellor,H. (2000). Regulation of endocytic traffic by rho family GTPases. *Trends Cell Biol.* *10*, 85-88.
 51. Farquhar,M.G. and Palade,G.E. (1998). The Golgi apparatus: 100 years of progress and controversy. *Trends Cell Biol.* *8*, 2-10.
 52. Faundez,V., Horng,J.T., and Kelly,R.B. (1998). A function for the AP3 coat complex in synaptic vesicle formation from endosomes. *Cell* *93*, 423-432.
 53. Feng,S., Chen,J.K., Yu,H., Simon,J.A., and Schreiber,S.L. (1994). Two binding orientations for peptides to the Src SH3 domain: development of a general model for SH3-ligand interactions. *Science* *266*, 1241-1247.
 54. Ferguson,K.M., Lemmon,M.A., Schlessinger,J., and Sigler,P.B. (1994). Crystal structure at 2.2 Å resolution of the pleckstrin homology domain from human dynamin. *Cell* *79*, 199-209.
 55. Ferguson,S.S. and Caron,M.G. (1998). G protein-coupled receptor adaptation mechanisms. *Semin.Cell Dev.Biol.* *9* , 119-127.
 56. Fish,K.N., Schmid,S.L., and Damke,H. (2000). Evidence that dynamin-2 functions as a signal-transducing GTPase. *J.Cell Biol.* *150*, 145-154.
 57. Fushman,D., Cahill,S., Lemmon,M.A., Schlessinger,J., and Cowburn,D. (1995). Solution structure of pleckstrin homology domain of dynamin by heteronuclear NMR spectroscopy. *Proc.Natl.Acad.Sci.U.S.A.* *92*, 816-820.
 58. Giachino,C., Lantelme,E., Lanzetti,L., Saccone,S., Bella,V.G., and Migone,N. (1997). A novel SH3-containing human gene family preferentially expressed in the central nervous system. *Genomics* *41*, 427-434.
 59. Gilbert,S.P. and Sloboda,R.D. (1989). A squid dynein isoform promotes axoplasmic vesicle translocation. *J.Cell Biol.* *109*, 2379-2394.
-

60. Gill,S.C. and von Hippel,P.H. (1989). Calculation of protein extinction coefficients from amino acid sequence data. *Anal.Biochem.* 182, 319-326.
 61. Gold,E.S., Morrissette,N.S., Underhill,D.M., Guo,J., Bassetti,M., and Aderem,A. (2000). Amphiphysin II α , a novel amphiphysin II isoform, is required for macrophage phagocytosis. *Immunity.* 12, 285-292.
 62. Gold,E.S., Underhill,D.M., Morrissette,N.S., Guo,J., McNiven,M.A., and Aderem,A. (1999). Dynamin 2 is required for phagocytosis in macrophages. *J.Exp.Med.* 190, 1849-1856.
 63. Gonzalez,G.M. and Jackle,H. (1997). Role of Drosophila alpha-adaptin in presynaptic vesicle recycling. *Cell* 88, 767-776.
 64. Goud,B., Zahraoui,A., Tavitian,A., and Saraste,J. (1990). Small GTP-binding protein associated with Golgi cisternae. *Nature* 345, 553-556.
 65. Gout,I., Dhand,R., Hiles,I.D., Fry,M.J., Panayotou,G., Das,P., Truong,O., Totty,N.F., Hsuan,J., Booker,G.W., and et al (1993). The GTPase dynamin binds to and is activated by a subset of SH3 domains. *Cell* 75, 25-36.
 66. Grabs,D., Slepnev,V.I., Songyang,Z., David,C., Lynch,M., Cantley,L.C., and De Camilli,P. (1997). The SH3 domain of amphiphysin binds the proline-rich domain of dynamin at a single site that defines a new SH3 binding consensus sequence. *J.Biol.Chem.* 272, 13419-13425.
 67. Gu,X. and Verma,D.P. (1996). Phragmoplastin, a dynamin-like protein associated with cell plate formation in plants. *EMBO J.* 15, 695-704.
 68. Guipponi,M., Scott,H.S., Chen,H., Schebesta,A., Rossier,C., and Antonarakis,S.E. (1998). Two isoforms of a human intersectin (ITSN) protein are produced by brain-specific alternative splicing in a stop codon. *Genomics* 53, 369-376.
 69. Guo,W., Roth,D., Walch,S.C., and Novick,P. (1999). The exocyst is an effector for Sec4p, targeting secretory vesicles to sites of exocytosis. *EMBO J.* 18, 1071-1080.
 70. Happe,S. and Weidman,P. (1998). Cell-free transport to distinct Golgi cisternae is compartment specific and ARF independent. *J.Cell Biol.* 140, 511-523.
 71. Haslam,R.J., Koide,H.B., and Hemmings,B.A. (1993). Pleckstrin domain homology [letter]. *Nature* 363, 309-310.
 72. Hata,Y., Slaughter,C.A., and Sudhof,T.C. (1993). Synaptic vesicle fusion complex contains unc-18 homologue bound to syntaxin. *Nature* 366, 347-351.
-

73. Hata, Y. and Sudhof, T.C. (1995). A novel ubiquitous form of Munc-18 interacts with multiple syntaxins. Use of the yeast two-hybrid system to study interactions between proteins involved in membrane traffic. *J. Biol. Chem.* *270*, 13022-13028.
 74. Hay, J.C. and Scheller, R.H. (1997). SNAREs and NSF in targeted membrane fusion. *Curr. Opin. Cell Biol.* *9*, 505-512.
 75. Henley, J.R., Krueger, E.W., Oswald, B.J., and McNiven, M.A. (1998). Dynamin-mediated internalization of caveolae. *J. Cell Biol.* *141*, 85-99.
 76. Herskovits, J.S., Burgess, C.C., Obar, R.A., and Vallee, R.B. (1993a). Effects of mutant rat dynamin on endocytosis. *J. Cell Biol.* *122*, 565-578.
 77. Herskovits, J.S., Shpetner, H.S., Burgess, C.C., and Vallee, R.B. (1993b). Microtubules and Src homology 3 domains stimulate the dynamin GTPase via its C-terminal domain. *Proc. Natl. Acad. Sci. U.S.A.* *90*, 11468-11472.
 78. Hidalgo, J., Muniz, M., and Velasco, A. (1995). Trimeric G proteins regulate the cytosol-induced redistribution of Golgi enzymes into the endoplasmic reticulum. *J. Cell Sci.* *108*, 1805-1815.
 79. Hinshaw, J.E. (1999). Dynamin spirals. *Curr. Opin. Struct. Biol.* *9*, 260-267.
 80. Hinshaw, J.E. and Schmid, S.L. (1995). Dynamin self-assembles into rings suggesting a mechanism for coated vesicle budding [see comments]. *Nature* *374*, 190-192.
 81. Hirst, J., Bright, N.A., Rous, B., and Robinson, M.S. (1999). Characterization of a fourth adaptor-related protein complex. *Mol. Biol. Cell* *10*, 2787-2802.
 82. Hirst, J. and Robinson, M.S. (1998). Clathrin and adaptors. *Biochim. Biophys. Acta* *1404*, 173-193.
 83. Hosoya, H., Komatsu, S., Shimizu, T., Inagaki, M., Ikegami, M., and Yazaki, K. (1994). Phosphorylation of dynamin by cdc2 kinase. *Biochem. Biophys. Res. Commun.* *202*, 1127-1133.
 84. Huber, L.A., Pimplikar, S., Parton, R.G., Virta, H., Zerial, M., and Simons, K. (1993). Rab8, a small GTPase involved in vesicular traffic between the TGN and the basolateral plasma membrane. *J. Cell Biol.* *123*, 35-45.
 85. Ikonen, E. and Simons, K. (1998). Protein and lipid sorting from the trans-Golgi network to the plasma membrane in polarized cells. *Semin. Cell Dev. Biol.* *9*, 503-509.
-

86. Jacobsson,G. and Meister,B. (1996). Molecular components of the exocytotic machinery in the rat pituitary gland. *Endocrinology* 137, 5344-5356.
 87. Jones,S.M., Howell,K.E., Henley,J.R., Cao,H., and McNiven,M.A. (1998). Role of dynamin in the formation of transport vesicles from the trans-Golgi network. *Science* 279, 573-577.
 88. Jost,M., Simpson,F., Kavran,J.M., Lemmon,M.A., and Schmid,S.L. (1998). Phosphatidylinositol-4,5-bisphosphate is required for endocytic coated vesicle formation. *Curr.Biol.* 8, 1399-1402.
 89. Kahn,R.A., Terui,T., and Randazzo,P.A. (1996). Effects of acid phospholipids on ARF activities: potential roles in membrane traffic. *J.Lipid Mediat.Cell Signal.* 14, 209-214.
 90. Kamimoto,T., Nagai,Y., Onogi,H., Muro,Y., Wakabayashi,T., and Hagiwara,M. (1998). Dymple, a novel dynamin-like high molecular weight GTPase lacking a proline-rich carboxyl-terminal domain in mammalian cells. *J.Biol.Chem.* 273, 1044-1051.
 91. Kao,A.W., Yang,C., and Pessin,J.E. (2000). Functional comparison of the role of dynamin 2 splice variants on GLUT-4 endocytosis in 3T3L1 adipocytes. *Am.J.Physiol Endocrinol.Metab* 278, E825-E831
 92. Kessell,I., Holst,B.D., and Roth,T.F. (1989). Membranous intermediates in endocytosis are labile, as shown in a temperature-sensitive mutant. *Proc.Natl.Acad.Sci.U.S.A* 86, 4968-4972.
 93. Kim,J.S. and Raines,R.T. (1993). Ribonuclease S-peptide as a carrier in fusion proteins. *Protein Sci.* 2, 348-356.
 94. Kirchhausen,T. (1998). Vesicle formation: dynamic dynamin lives up to its name. *Curr.Biol.* 8, R792-R794
 95. Kirchhausen,T., Bonifacino,J.S., and Riezman,H. (1997). Linking cargo to vesicle formation: receptor tail interactions with coat proteins. *.Curr.Opin.Cell Biol.* 9, 488-495.
 96. Kjeldgaard,M., Nyborg,J., and Clark,B.F. (1996). The GTP binding motif: variations on a theme. *FASEB J.* 10, 1347-1368.
 97. Klein,D.E., Lee,A., Frank,D.W., Marks,M.S., and Lemmon,M.A. (1998). The pleckstrin homology domains of dynamin isoforms require oligomerization for high affinity phosphoinositide binding. *J.Biol.Chem.* 273, 27725-27733.
-

98. Klumperman,J., Kuliawat,R., Griffith,J.M., Geuze,H.J., and Arvan,P. (1998). Mannose 6-phosphate receptors are sorted from immature secretory granules via adaptor protein AP-1, clathrin, and syntaxin 6- positive vesicles. *J.Cell Biol.* *141*, 359-371.
 99. Kobayashi,T., Gu,F., and Gruenberg,J. (1998). Lipids, lipid domains and lipid-protein interactions in endocytic membrane traffic. *Semin.Cell Dev.Biol.* *9*, 517-526.
 100. Koenig,J.H. and Ikeda,K. (1989). Disappearance and reformation of synaptic vesicle membrane upon transmitter release observed under reversible blockage of membrane retrieval. *J.Neurosci.* *9* , 3844-3860.
 101. Koenig,J.H. and Ikeda,K. (1990). Transformational process of the endosomal compartment in nephrocytes of *Drosophila melanogaster*. *Cell Tissue Res.* *262*, 233-244.
 102. Kosaka,T. and Ikeda,K. (1983). Possible temperature-dependent blockage of synaptic vesicle recycling induced by a single gene mutation in *Drosophila*. *J.Neurobiol.* *14*, 207-225.
 103. Kozlov,M.M. (1999). Dynamin: possible mechanism of "Pinchase" action. *Biophys.J.* *77*, 604-616.
 104. Kreitzer,G., Marmorstein,A., Okamoto,P., Vallee,R., and Rodriguez,B.E. (2000). Kinesin and dynamin are required for post-Golgi transport of a plasma-membrane protein. *Nat.Cell Biol.* *2*, 125-127.
 105. Kroschewski,R., Hall,A., and Mellman,I. (1999). Cdc42 controls secretory and endocytic transport to the basolateral plasma membrane of MDCK cells. *Nat.Cell Biol.* *1*, 8-13.
 106. Kuehn,M.J., Herrmann,J.M., and Schekman,R. (1998). COPII-cargo interactions direct protein sorting into ER-derived transport vesicles. *Nature* *391*, 187-190.
 107. Labrousse,A.M., Shurland,D.L., and van-der,B.A. (1998). Contribution of the GTPase domain to the subcellular localization of dynamin in the nematode *Caenorhabditis elegans*. *Mol.Biol.Cell* *9* , 3227-3239.
 108. Lamaze,C., Chuang,T.H., Terlecky,L.J., Bokoch,G.M., and Schmid,S.L. (1996). Regulation of receptor-mediated endocytosis by Rho and Rac. *Nature* *382*, 177-179.
 109. Le Borgne,R. and Hoflack,B. (1998). Mechanisms of protein sorting and coat assembly: insights from the clathrin-coated vesicle pathway. *Curr.Opin.Cell Biol.* *10*, 499-503.
-

110. Lee,A., Frank,D.W., Marks,M.S., and Lemmon,M.A. (1999). Dominant-negative inhibition of receptor-mediated endocytosis by a dynamin-1 mutant with a defective pleckstrin homology domain. *Curr.Biol.* 9, 261-264.
 111. Lenhard,J.M., Colombo,M.I., and Stahl,P.D. (1994). Heterotrimeric GTP-binding proteins (G proteins) and ADP-ribosylation factor (ARF) regulate priming of endosomal membranes for fusion. *Arch.Biochem.Biophys.* 312, 474-479.
 112. Lewin,D.A., Sheff,D., Ooi,C.E., Whitney,J.A., Yamamoto,E., Chicione,L.M., Webster,P., Bonifacino,J.S., and Mellman,I. (1998). Cloning, expression, and localization of a novel gamma-adaptin- like molecule. *.FEBS Lett.* 435, 263-268.
 113. Li,J.Y., De Camilli,P., and Dahlstrom,A. (1997). Intraneuronal trafficking and distribution of amphiphysin and synaptojanin in the rat peripheral nervous system and the spinal cord. *Eur.J.Neurosci.* 9, 1864-1874.
 114. Lin,H.C., Barylko,B., Achiriloaie,M., and Albanesi,J.P. (1997). Phosphatidylinositol (4,5)-bisphosphate-dependent activation of dynamins I and II lacking the proline/arginine-rich domains. *J.Biol.Chem.* 272, 25999-26004.
 115. Lin,H.C. and Gilman,A.G. (1996). Regulation of dynamin I GTPase activity by G protein betagamma subunits and phosphatidylinositol 4,5-bisphosphate. *J.Biol.Chem.* 271, 27979-27982.
 116. Lippincott,S.J. and Cole,N.B. (1995). Roles for microtubules and kinesin in membrane traffic between the endoplasmic reticulum and the Golgi complex. *Biochem.Soc.Trans.* 23, 544-548.
 117. Liu,J.P., Powell,K.A., Sudhof,T.C., and Robinson,P.J. (1994a). Dynamin I is a Ca(2+)-sensitive phospholipid-binding protein with very high affinity for protein kinase C. *J.Biol.Chem.* 269, 21043-21050.
 118. Liu,J.P., Sim,A.T., and Robinson,P.J. (1994b). Calcineurin inhibition of dynamin I GTPase activity coupled to nerve terminal depolarization. *Science* 265, 970-973.
 119. Liu,J.P., Yajima,Y., Li,H., Ackland,S., Akita,Y., Stewart,J., and Kawashima,S. (1997). Molecular interactions between dynamin and G-protein betagamma-subunits in neuroendocrine cells. *Mol.Cell Endocrinol.* 132, 61-71.
 120. Llorente,A., Rapak,A., Schmid,S.L., van Deurs,B., and Sandvig,K. (1998). Expression of mutant dynamin inhibits toxicity and transport of endocytosed ricin to the Golgi apparatus. *J.Cell Biol.* 140, 553-563.
 121. Maier,O., Ehmsen,E., and Westermann,P. (1995). Trimeric G protein alpha subunits of the Gs and Gi families localized at the Golgi membrane. *Biochem.Biophys.Res.Comm.* 208, 135-143.
-

122. Maier,O., Knoblich,M., and Westermann,P. (1996). Dynamin II binds to the trans-Golgi network. *Biochem.Biophys.Res.Commun.* 223, 229-233.
 123. Mammoto,A., Ohtsuka,T., Hotta,I., Sasaki,T., and Takai,Y. (1999). Rab11BP/Rabphilin-11, a downstream target of rab11 small G protein implicated in vesicle recycling. *J.Biol.Chem.* 274, 25517-25524.
 124. Martinez,O., Schmidt,A., Salamero,J., Hoflack,B., Roa,M., and Goud,B. (1994). The small GTP-binding protein rab6 functions in intra-Golgi transport. *J.Cell Biol.* 127, 1575-1588.
 125. McClure,S.J. and Robinson,P.J. (1996). Dynamin, endocytosis and intracellular signalling (review). *Mol.Membr.Biol.* 13, 189-215.
 126. McMahon,H.T., Wigge,P., and Smith,C. (1997). Clathrin interacts specifically with amphiphysin and is displaced by dynamin. *FEBS Lett.* 413, 319-322.
 127. McNiven,M.A. (1998). Dynamin: a molecular motor with pinchase action. *Cell* 94, 151-154.
 128. McNiven,M.A., Cao,H., Pitts,K.R., and Yoon,Y. (2000). The dynamin family of mechanoenzymes: pinching in new places. *Trends Biochem.Sci.* 25, 115-120.
 129. McPherson,P.S., Czernik,A.J., Chilcote,T.J., Onofri,F., Benfenati,F., Greengard,P., Schlessinger,J., and De Camilli,P. (1994). Interaction of Grb2 via its Src homology 3 domains with synaptic proteins including synapsin I. *Proc.Natl.Acad.Sci.U.S.A.* 91, 6486-6490.
 130. Melancon,P., Glick,B.S., Malhotra,V., Weidman,P.J., Serafini,T., Orci,L., and Rothman,J.E. (1989). A role for GTP-binding proteins in vesicular transport through the Golgi complex. *Soc.Gen.Physiol Ser.* 44, 175-188.
 131. Merrick,B.A., He,C., Witcher,L.L., Patterson,R.M., Reid,J.J., Pence-Pawlowski,P.M., and Selkirk,J.K. (1996). HSP binding and mitochondrial localization of p53 protein in human HT1080 and mouse C3H10T1/2 cell lines. *Biochim.Biophys.Acta* 1297, 57-68.
 132. Merrick,B.A., Patterson,R.M., Witcher,L.L., He,C., and Selkirk,J.K. (1994). Separation and sequencing of familiar and novel murine proteins using preparative two-dimensional gel electrophoresis. *Electrophoresis* 15, 735-745.
 133. Micheva,K.D., Kay,B.K., and McPherson,P.S. (1997b). Synaptojanin forms two separate complexes in the nerve terminal. Interactions with endophilin and amphiphysin. *J.Biol.Chem.* 272, 27239-27245.
-

134. Micheva,K.D., Ramjaun,A.R., Kay,B.K., and McPherson,P.S. (1997a). SH3 domain-dependent interactions of endophilin with amphiphysin [published erratum appears in FEBS Lett 1997 Dec 8;419(1):150]. FEBS Lett. 414, 308-312.
 135. Muhlberg,A.B., Warnock,D.E., and Schmid,S.L. (1997). Domain structure and intramolecular regulation of dynamin GTPase. EMBO J. 16, 6676-6683.
 136. Munro,S. (1998). Localization of proteins to the Golgi apparatus. Trends Cell Biol. 8, 11-15.
 137. Murphy,C., Saffrich,R., Grummt,M., Gournier,H., Rybin,V., Rubino,M., Auvinen,P., Lutcke,A., Parton,R.G., and Zerial,M. (1996). Endosome dynamics regulated by a Rho protein. Nature 384, 427-432.
 138. Musch,A., Cohen,D., and Rodriguez,B.E. (1997). Myosin II is involved in the production of constitutive transport vesicles from the TGN. J.Cell Biol. 138, 291-306.
 139. Nichols,B.J. and Pelham,H.R. (1998). SNAREs and membrane fusion in the Golgi apparatus. Biochim.Biophys.Acta 1404, 9-31.
 140. Nickel,W., Brugger,B., and Wieland,F.T. (1998). Protein and lipid sorting between the endoplasmic reticulum and the Golgi complex. Semin.Cell Dev.Biol. 9, 493-501.
 141. Nickel,W., Huber,L.A., Kahn,R.A., Kipper,N., Barthel,A., Fasshauer,D., and Soling,H.D. (1994). ADP ribosylation factor and a 14-kD polypeptide are associated with heparan sulfate-carrying post-trans-Golgi network secretory vesicles in rat hepatocytes. J.Cell Biol. 125 , 721-732.
 142. Novick,P. and Zerial,M. (1997). The diversity of Rab proteins in vesicle transport. Curr.Opin.Cell Biol. 9, 496-504.
 143. Obar,R.A., Collins,C.A., Hammarback,J.A., Shpetner,H.S., and Vallee,R.B. (1990). Molecular cloning of the microtubule-associated mechanochemical enzyme dynamin reveals homology with a new family of GTP-binding proteins [see comments]. Nature 347, 256-261.
 144. Ochoa,G.C., Slepnev,V.I., Neff,L., Ringstad,N., Takei,K., Daniell,L., Kim,W., Cao,H., McNiven,M., Baron,R., and De Camilli,P. (2000). A functional link between dynamin and the actin cytoskeleton at podosomes. J.Cell Biol. 150, 377-389.
 145. Odorizzi,G., Cowles,C.R., and Emr,S.D. (1998). The AP-3 complex: a coat of many colours. Trends Cell Biol. 8 , 282-288.
-

146. Oh,P., McIntosh,D.P., and Schnitzer,J.E. (1998). Dynamin at the neck of caveolae mediates their budding to form transport vesicles by GTP-driven fission from the plasma membrane of endothelium. *J.Cell Biol.* *141*, 101-114.
 147. Okamoto,M., Schoch,S., and Sudhof,T.C. (1999b). ESH1/intersectin, a protein that contains EH and SH3 domains and binds to dynamin and SNAP-25. A protein connection between exocytosis and endocytosis? *J.Biol.Chem.* *274*, 18446-18454.
 148. Okamoto,P.M., Herskovits,J.S., and Vallee,R.B. (1997). Role of the basic, proline-rich region of dynamin in Src homology 3 domain binding and endocytosis. *J.Biol.Chem.* *272*, 11629-11635.
 149. Okamoto,P.M., Tripet,B., Litowski,J., Hodges,R.S., and Vallee,R.B. (1999a). Multiple distinct coiled-coils are involved in dynamin self-assembly. *J.Biol.Chem.* *274*, 10277-10286.
 150. Omata,W., Shibata,H., Suzuki,Y., Tanaka,S., Suzuki,T., Takata,K., and Kojima,I. (1997). Subcellular distribution of GLUT4 in Chinese hamster ovary cells overexpressing mutant dynamin: evidence that dynamin is a regulatory GTPase in GLUT4 endocytosis. *Biochem.Biophys.Res.Commun.* *241*, 401-406.
 151. Ooi,C.E., Dell'Angelica,E.C., and Bonifacino,J.S. (1998). ADP-Ribosylation factor 1 (ARF1) regulates recruitment of the AP-3 adaptor complex to membranes. *J.Cell Biol.* *142*, 391-402.
 152. Otsuga,D., Keegan,B.R., Brisch,E., Thatcher,J.W., Hermann,G.J., Bleazard,W., and Shaw,J.M. (1998). The dynamin-related GTPase, Dnm1p, controls mitochondrial morphology in yeast. *J.Cell Biol.* *143*, 333-349.
 153. Otto,A., Thiede,B., Muller,E.C., Scheler,C., Wittmann,L.B., and Jungblut,P. (1996). Identification of human myocardial proteins separated by two-dimensional electrophoresis using an effective sample preparation for mass spectrometry. *Electrophoresis* *17*, 1643-1650.
 154. Owen,D.J., Wigge,P., Vallis,Y., Moore,J.D., Evans,P.R., and McMahon,H.T. (1998). Crystal structure of the amphiphysin-2 SH3 domain and its role in the prevention of dynamin ring formation. *EMBO J.* *17*, 5273-5285.
 155. Paccaud,J.P., Reith,W., Carpentier,J.L., Ravazzola,M., Amherdt,M., Schekman,R., and Orci,L. (1996). Cloning and functional characterization of mammalian homologues of the COPII component Sec23. *Mol.Biol.Cell* *7*, 1535-1546.
 156. Palade,G. (1975). Intracellular aspects of the process of protein synthesis. *Science* *189*, 347-358.
-

157. Park,J.M., Kang,S.G., Pih,K.T., Jang,H.J., Piao,H.L., Yoon,H.W., Cho,M.J., and Hwang,I. (1997). A dynamin-like protein, ADL1, is present in membranes as a high- molecular-mass complex in *Arabidopsis thaliana*. *Plant Physiol.* *115*, 763-771.
 158. Pavlovic,J., Schroder,A., Blank,A., Pitossi,F., and Staeheli,P. (1993). Mx proteins: GTPases involved in the interferon-induced antiviral state. *Ciba.Found.Symp.* *176*, 233-243.
 159. Peter,F., Nuoffer,C., Pind,S.N., and Balch,W.E. (1994). Guanine nucleotide dissociation inhibitor is essential for Rab1 function in budding from the endoplasmic reticulum and transport through the Golgi stack. *J.Cell Biol.* *126*, 1393-1406.
 160. Pevsner,J., Hsu,S.C., and Scheller,R.H. (1994a). n-Sec1: a neural-specific syntaxin-binding protein. *Proc.Natl.Acad.Sci.U.S.A* *91*, 1445-1449.
 161. Pevsner,J., Volkandt,W., Wong,B.R., and Scheller,R.H. (1994b). Two rat homologs of clathrin-associated adaptor proteins. *Gene* *146*, 279-283.
 162. Pimplikar,S.W. and Simons,K. (1993). Role of heterotrimeric G proteins in polarized membrane transport. *J.Cell Sci.Suppl.* *17*, 27-32.
 163. Pitts,K.R., Yoon,Y., Krueger,E.W., and McNiven,M.A. (1999). The dynamin-like protein DLP1 is essential for normal distribution and morphology of the endoplasmic reticulum and mitochondria in mammalian cells. *Mol.Biol.Cell* *10*, 4403-4417.
 164. Poodry,C.A. and Edgar,L. (1979). Reversible alteration in the neuromuscular junctions of *Drosophila melanogaster* bearing a temperature-sensitive mutation, shibire. *J.Cell Biol.* *81*, 520-527.
 165. Powell,K.A., Valova,V.A., Malladi,C.S., Jensen,O.N., Larsen,M.R., and Robinson,P.J. (2000). Phosphorylation of dynamin I on Ser-795 by protein kinase C blocks its association with phospholipids. *J.Biol.Chem.* *275*, 11610-11617.
 166. Provencher,S.W. and Glöckner,J. (1981). Estimation of globular protein secondary structure from circular dichroism. *Biochemistry* *20*, 33-37.
 167. Pucharos,C., Estivill,X., and de la,L.S. (2000). Intersectin 2, a new multimodular protein involved in clathrin-mediated endocytosis(1) [In Process Citation]. *FEBS Lett.*2000.Jul.28.;478.(1-2):43.-51. *478*, 43-51.
 168. Qualmann,B. and Kelly,R.B. (2000). Syndapin isoforms participate in receptor-mediated endocytosis and actin organization. *J.Cell Biol.* *148*, 1047-1062.
-

169. Qualmann,B., Roos,J., DiGregorio,P.J., and Kelly,R.B. (1999). Syndapin I, a synaptic dynamin-binding protein that associates with the neural Wiskott-Aldrich syndrome protein. *Mol.Biol.Cell* 10, 501-513.
 170. Ramjaun,A.R. and McPherson,P.S. (1998). Multiple amphiphysin II splice variants display differential clathrin binding: identification of two distinct clathrin-binding sites. *J.Neurochem.* 70, 2369-2376.
 171. Ramjaun,A.R., Micheva,K.D., Bouchelet,I., and McPherson,P.S. (1997). Identification and characterization of a nerve terminal-enriched amphiphysin isoform. *J.Biol.Chem.* 272, 16700-16706.
 172. Ringstad,N., Gad,H., Low,P., Di Paolo,G., Brodin,L., Shupliakov,O., and De Camilli,P. (1999). Endophilin/SH3p4 is required for the transition from early to late stages in clathrin-mediated synaptic vesicle endocytosis [see comments]. *Neuron* 24, 143-154.
 173. Ringstad,N., Nemoto,Y., and De Camilli,P. (1997). The SH3p4/Sh3p8/SH3p13 protein family: binding partners for synaptojanin and dynamin via a Grb2-like Src homology 3 domain. *Proc.Natl.Acad.Sci.U.S.A* 94, 8569-8574.
 174. Ritter,B., Modregger,J., Paulsson,M., and Plomann,M. (1999). PACSIN 2, a novel member of the PACSIN family of cytoplasmic adapter proteins. *FEBS Lett.* 454, 356-362.
 175. Robinson,M.S. (1990). Cloning and expression of gamma-adaptin, a component of clathrin- coated vesicles associated with the Golgi apparatus. *J.Cell Biol.* 111, 2319-2326.
 176. Robinson,P.J., Sontag,J.M., Liu,J.P., Fykse,E.M., Slaughter,C., McMahon,H., and Sudhof,T.C. (1993). Dynamin GTPase regulated by protein kinase C phosphorylation in nerve terminals [see comments]. *Nature* 365, 163-166.
 177. Rogers,S.L. and Gelfand,V.I. (2000). Membrane trafficking, organelle transport, and the cytoskeleton. *Curr.Opin.Cell Biol.* 12, 57-62.
 178. Rosa,P., Barr,F.A., Stinchcombe,J.C., Binacchi,C., and Huttner,W.B. (1992). Brefeldin A inhibits the formation of constitutive secretory vesicles and immature secretory granules from the trans-Golgi network. *Eur.J.Cell Biol.* 59, 265-274.
 179. Rosenberg,A.H., Lade,B.N., Chui,D.S., Lin,S.W., Dunn,J.J., and Studier,F.W. (1987). Vectors for selective expression of cloned DNAs by T7 RNA polymerase. *Gene* 56, 125-135.
 180. Rost,B. (1996). PHD: predicting one-dimensional protein structure by profile-based neural networks. *Methods Enzymol.* 266, 525-539.
-

181. Rost,B. and Sander,C. (1993). Prediction of protein secondary structure at better than 70 % accuracy. *J.Mol.Biol.* 232, 584-599.
 182. Roth,M.G. and Sternweis,P.C. (1997). The role of lipid signaling in constitutive membrane traffic. *Curr.Opin.Cell Biol.* 9, 519-526.
 183. Sacher,M., Jiang,Y., Barrowman,J., Scarpa,A., Burstson,J., Zhang,L., Schieltz,D., Yates,J.R., Abeliovich,H., and Ferro,N.S. (1998). TRAPP, a highly conserved novel complex on the cis-Golgi that mediates vesicle docking and fusion. *EMBO J.* 17, 2494-2503.
 184. Salem,N., Faundez,V., Horng,J.T., and Kelly,R.B. (1998). A v-SNARE participates in synaptic vesicle formation mediated by the AP3 adaptor complex. *Nat.Neurosci.* 1, 551-556.
 185. Sambrook,J, Fritsch.E.F, and Maniatis.T (1989). *Molecular Cloning: A Laboratory Manual*, 2nd ed., Cold Spring Harbor Laboratory,. Cold Spring Harbor, New York.
 186. Sapperstein,S.K., Lupashin,V.V., Schmitt,H.D., and Waters,M.G. (1996). Assembly of the ER to Golgi SNARE complex requires Uso1p. *J.Cell Biol.* 132, 755-767.
 187. Scaife,R., Gout,I., Waterfield,M.D., and Margolis,R.L. (1994). Growth factor-induced binding of dynamin to signal transduction proteins involves sorting to distinct and separate proline-rich dynamin sequences. *EMBO J.* 13, 2574-2582.
 188. Schiavo,G., Stenbeck,G., Rothman,J.E., and Sollner,T.H. (1997). Binding of the synaptic vesicle v-SNARE, synaptotagmin, to the plasma membrane t-SNARE, SNAP-25, can explain docked vesicles at neurotoxin-treated synapses [see comments]. *Proc.Natl.Acad.Sci.U.S.A.* 94, 997-1001.
 189. Schimmoller,F., Itin,C., and Pfeffer,S. (1997). Vesicle traffic: get your coat! *Curr.Biol.* 7, R235-R237
 190. Schmid,S.L. (1997). Clathrin-coated vesicle formation and protein sorting: an integrated process. *Annu.Rev.Biochem.* 66, 511-548.
 191. Schmid,S.L., McNiven,M.A., and De,C.P. (1998). Dynamin and its partners: a progress report. *Curr.Opin.Cell Biol.* 10, 504-512.
 192. Schmidt,A., Wolde,M., Thiele,C., Fest,W., Kratzin,H., Podtelejnikov,A.V., Witke,W., Huttner,W.B., and Soling,H.D. (1999). Endophilin I mediates synaptic vesicle formation by transfer of arachidonate to lysophosphatidic acid [see comments]. *Nature* 401, 133-141.
-

193. Schnitzer, J.E., Oh, P., and McIntosh, D.P. (1996). Role of GTP hydrolysis in fission of caveolae directly from plasma membranes [published erratum appears in *Science* 1996 Nov 15;274(5290):1069]. *Science* 274, 239-242.
 194. Schroeder, C.C., Fok, A.K., and Allen, R.D. (1990). Vesicle transport along microtubular ribbons and isolation of cytoplasmic dynein from *Paramecium*. *J. Cell Biol.* 111, 2553-2562.
 195. Schwaninger, R., Plutner, H., Bokoch, G.M., and Balch, W.E. (1992). Multiple GTP-binding proteins regulate vesicular transport from the ER to Golgi membranes. *J. Cell Biol.* 119, 1077-1096.
 196. Sciaky, N., Presley, J., Smith, C., Zaal, K.J., Cole, N., Moreira, J.E., Terasaki, M., Siggia, E., and Lippincott, S.J. (1997). Golgi tubule traffic and the effects of brefeldin A visualized in living cells. *J. Cell Biol.* 139, 1137-1155.
 197. Seedorf, K., Kostka, G., Lammers, R., Bashkin, P., Daly, R., Burgess, W.H., van der Blik, A.M., Schlessinger, J., and Ullrich, A. (1994). Dynamin binds to SH3 domains of phospholipase C gamma and GRB-2. *J. Biol. Chem.* 269, 16009-16014.
 198. Senda, T., Horiguchi, Y., Umemoto, M., Sugimoto, N., and Matsuda, M. (1997). *Bordetella bronchiseptica* dermonecrotizing toxin, which activates a small GTP-binding protein rho, induces membrane organelle proliferation and caveolae formation. *Exp. Cell Res.* 230, 163-168.
 199. Sengar, A.S., Wang, W., Bishay, J., Cohen, S., and Egan, S.E. (1999). The EH and SH3 domain Ese proteins regulate endocytosis by linking to dynamin and Eps15. *EMBO J.* 18, 1159-1171.
 200. Sever, S., Damke, H., and Schmid, S.L. (2000). Dynamin:GTP controls the formation of constricted coated pits, the rate limiting step in clathrin-mediated endocytosis [In Process Citation]. *J. Cell Biol.* 150, 1137-1148.
 201. Sever, S., Muhlberg, A.B., and Schmid, S.L. (1999). Impairment of dynamin's GAP domain stimulates receptor-mediated endocytosis [see comments]. *Nature* 398, 481-486.
 202. Shepard, K.A. and Yaffe, M.P. (1999). The yeast dynamin-like protein, Mgm1p, functions on the mitochondrial outer membrane to mediate mitochondrial inheritance. *J. Cell Biol.* 144, 711-720.
 203. Shevchenko, A., Keller, P., Scheiffele, P., Mann, M., and Simons, K. (1997). Identification of components of trans-Golgi network-derived transport vesicles and detergent-insoluble complexes by nanoelectrospray tandem mass spectrometry. *Electrophoresis* 18, 2591-2600.
-

204. Shin,H.W., Shinotsuka,C., Torii,S., Murakami,K., and Nakayama,K. (1997). Identification and subcellular localization of a novel mammalian dynamin-related protein homologous to yeast Vps1p and Dnm1p. *J.Biochem.Tokyo.* *122*, 525-530.
 205. Shorter,J. and Warren,G. (1999). A role for the vesicle tethering protein, p115, in the post-mitotic stacking of reassembling Golgi cisternae in a cell-free system. *J.Cell Biol.* *146*, 57-70.
 206. Shpetner,H.S., Herskovits,J.S., and Vallee,R.B. (1996). A binding site for SH3 domains targets dynamin to coated pits. *J.Biol.Chem.* *271*, 13-16.
 207. Shpetner,H.S. and Vallee,R.B. (1989). Identification of dynamin, a novel mechanochemical enzyme that mediates interactions between microtubules. *Cell* *59*, 421-432.
 208. Shuang,R., Zhang,L., Fletcher,A., Groblewski,G.E., Pevsner,J., and Stuenkel,E.L. (1998). Regulation of Munc-18/syntaxin 1A interaction by cyclin-dependent kinase 5 in nerve endings. *J.Biol.Chem.* *273*, 4957-4966.
 209. Shupliakov,O., Low,P., Grabs,D., Gad,H., Chen,H., David,C., Takei,K., De Camilli,P., and Brodin,L. (1997). Synaptic vesicle endocytosis impaired by disruption of dynamin- SH3 domain interactions. *Science* *276*, 259-263.
 210. Simon,J.P., Ivanov,I.E., Shopsin,B., Hersh,D., Adesnik,M., and Sabatini,D.D. (1996). The *in vitro* generation of post-Golgi vesicles carrying viral envelope glycoproteins requires an ARF-like GTP-binding protein and a protein kinase C associated with the Golgi apparatus. *J.Biol.Chem.* *271*, 16952-16961.
 211. Simpson,F., Hussain,N.K., Qualmann,B., Kelly,R.B., Kay,B.K., McPherson,P.S., and Schmid,S.L. (1999). SH3-domain-containing proteins function at distinct steps in clathrin-coated vesicle formation. *Nat.Cell Biol.* *1*, 119-124.
 212. Slepnev,V.I., Ochoa,G.C., Butler,M.H., Grabs,D., and Camilli,P.D. (1998). Role of phosphorylation in regulation of the assembly of endocytic coat complexes. *Science* *281*, 821-824.
 213. Smirnova,E., Shurland,D.L., Ryazantsev,S.N., and van-der,B.A. (1998). A human dynamin-related protein controls the distribution of mitochondria. *J.Cell Biol.* *143*, 351-358.
 214. Smith,C.J. and Pearse,B.M. (1999). Clathrin: anatomy of a coat protein. *Trends Cell Biol.* *9*, 335-338.
 215. Sollner,T., Bennett,M.K., Whiteheart,S.W., Scheller,R.H., and Rothman,J.E. (1993). A protein assembly-disassembly pathway *in vitro* that may correspond to
-

- sequential steps of synaptic vesicle docking, activation, and fusion. *Cell* 75, 409-418.
216. Sontag,J.M., Fykse,E.M., Ushkaryov,Y., Liu,J.P., Robinson,P.J., and Sudhof,T.C. (1994). Differential expression and regulation of multiple dynamins. *J.Biol.Chem.* 269, 4547-4554.
217. Soroka,C.J. and Farquhar,M.G. (1991). Characterization of a novel heparan sulfate proteoglycan found in the extracellular matrix of liver sinusoids and basement membranes. *J.Cell Biol.* 113 , 1231-1241.
218. Springer,S. and Schekman,R. (1998). Nucleation of COPII vesicular coat complex by endoplasmic reticulum to Golgi vesicle SNAREs. *Science* 281, 698-700.
219. Stack,J.H., DeWald,D.B., Takegawa,K., and Emr,S.D. (1995). Vesicle-mediated protein transport: regulatory interactions between the Vps15 protein kinase and the Vps34 PtdIns 3-kinase essential for protein sorting to the vacuole in yeast. *J.Cell Biol.* 129, 321-334.
220. Stevens,F.J. and Argon,Y. (1999). Protein folding in the ER. *Semin.Cell Dev.Biol.* 10, 443-454.
221. Stow,J.L., de,A.J., Narula,N., Holtzman,E.J., Ercolani,L., and Ausiello,D.A. (1991). A heterotrimeric G protein, G alpha i-3, on Golgi membranes regulates the secretion of a heparan sulfate proteoglycan in LLC-PK1 epithelial cells. *J.Cell Biol.* 114, 1113-1124.
222. Stow,J.L. and Heimann,K. (1998). Vesicle budding on Golgi membranes: regulation by G proteins and myosin motors. *Biochim.Biophys.Acta* 1404, 161-171.
223. Stow,J.L., Soroka,C.J., MacKay,K., Striker,L., Striker,G., and Farquhar,M.G. (1989). Basement membrane heparan sulfate proteoglycan is the main proteoglycan synthesized by glomerular epithelial cells in culture. *Am.J.Pathol.* 135, 637-646.
224. Studier,F.W. (1991). Use of bacteriophage T7 lysozyme to improve an inducible T7 expression system. *J.Mol.Biol.* 219, 37-44.
225. Studier,F.W., Rosenberg,A.H., Dunn,J.J., and Dubendorff,J.W. (1990). Use of T7 RNA polymerase to direct expression of cloned genes. *Methods Enzymol.* 185, 60-89.
226. Sulpice,J.C., Zachowski,A., Devaux,P.F., and Giraud,F. (1994). Requirement for phosphatidylinositol 4,5-bisphosphate in the Ca(2+)-induced phospholipid redistribution in the human erythrocyte membrane. *J.Biol.Chem.* 269, 6347-6354.
-

227. Sweitzer,S.M. and Hinshaw,J.E. (1998). Dynamin undergoes a GTP-dependent conformational change causing vesiculation. *Cell* 93, 1021-1029.
228. Takei,K., Haucke,V., Slepnev,V., Farsad,K., Salazar,M., Chen,H., and De Camilli,P. (1998). Generation of coated intermediates of clathrin-mediated endocytosis on protein-free liposomes. *Cell* 94, 131-141.
229. Takel,K., McPherson,P.S., Schmid,S.L., and De Camilli,P. (1995). Tubular membrane invaginations coated by dynamin rings are induced by GTP-gamma S in nerve terminals [see comments]. *Nature* 374, 186-190.
230. Tan,S.L., Nakao,H., He,Y., Vijaysri,S., Neddermann,P., Jacobs,B.L., Mayer,B.J., and Katze,M.G. (1999). NS5A, a nonstructural protein of hepatitis C virus, binds growth factor receptor-bound protein 2 adaptor protein in a Src homology 3 domain/ligand-dependent manner and perturbs mitogenic signaling. *Proc.Natl.Acad.Sci.U.S.A.* 96, 5533-5538.
231. Tanaka,K. and Takai,Y. (1998). Control of reorganization of the actin cytoskeleton by Rho family small GTP-binding proteins in yeast. *Curr.Opin.Cell Biol.* 10, 112-116.
232. Terui,T., Kahn,R.A., and Randazzo,P.A. (1994). Effects of acid phospholipids on nucleotide exchange properties of ADP-ribosylation factor 1. Evidence for specific interaction with phosphatidylinositol 4,5-bisphosphate. *J.Biol.Chem.* 269, 28130-28135.
233. Thiele,C. and Huttner,W.B. (1998). Protein and lipid sorting from the trans-Golgi network to secretory granules-recent developments. *Semin.Cell Dev.Biol.* 9, 511-516.
234. Timm,D., Salim,K., Gout,I., Guruprasad,L., Waterfield,M., and Blundell,T. (1994a). Crystal structure of the pleckstrin homology domain from dynamin. *Nat.Struct.Biol.* 1, 782-788.
235. Timm,D., Salim,K., Gout,I., Guruprasad,L., Waterfield,M., and Blundell,T. (1994b). Crystal structure of the pleckstrin homology domain from dynamin. *Nature Struct.Biol.* 1, 782-788.
236. Toomre,D., Keller,P., White,J., Olivo,J.C., and Simons,K. (1999). Dual-color visualization of trans-Golgi network to plasma membrane traffic along microtubules in living cells. *J.Cell Sci.* 112, 21-33.
237. Tooze,S., Seethaler,G., and Shields,D. (1998). The slippery slopes of secretion. *Trends Cell Biol.* 8, 211-213.
-

238. Tooze, S.A. (1991). Biogenesis of secretory granules. Implications arising from the immature secretory granule in the regulated pathway of secretion. *FEBS Lett.* 285, 220-224.
 239. Tooze, S.A. (1998). Biogenesis of secretory granules in the trans-Golgi network of neuroendocrine and endocrine cells. *Biochim. Biophys. Acta* 1404, 231-244.
 240. Tooze, S.A. and Stinchcombe, J. (1992). Biogenesis of secretory granules. *Seminars in Cell Biol.* 3, 357-366.
 241. Traub, L.M. and Kornfeld, S. (1997). The trans-Golgi network: a late secretory sorting station. *Curr. Opin. Cell Biol.* 9, 527-533.
 242. Traub, L.M., Ostrom, J.A., and Kornfeld, S. (1993). Biochemical dissection of AP-1 recruitment onto Golgi membranes. *J. Cell Biol.* 123, 561-573.
 243. Tsuruhara, T., Koenig, J.H., and Ikeda, K. (1990). Synchronized endocytosis studied in the oocyte of a temperature-sensitive mutant of *Drosophila melanogaster*. *Cell Tissue Res.* 259, 199-207.
 244. Tuma, P.L. and Collins, C.A. (1995). Dynamin forms polymeric complexes in the presence of lipid vesicles. Characterization of chemically cross-linked dynamin molecules. *J. Biol. Chem.* 270, 26707-26714.
 245. Tuma, P.L., Stachniak, M.C., and Collins, C.A. (1993). Activation of dynamin GTPase by acidic phospholipids and endogenous rat brain vesicles. *J. Biol. Chem.* 268, 17240-17246.
 246. Urrutia, R., Henley, J.R., Cook, T., and McNiven, M.A. (1997). The dynamins: redundant or distinct functions for an expanding family of related GTPases? *Proc. Natl. Acad. Sci. U.S.A.* 94, 377-384.
 247. Uversky, V.N. (1993). Use of fast protein size-exclusion liquid chromatography to study the unfolding of proteins which denature through the molten globule. *Biochemistry* 32, 13228-13298.
 248. Vallee, R.B., Herskovits, J.S., Aghajanian, J.G., Burgess, C.C., and Shpetner, H.S. (1993). Dynamin, a GTPase involved in the initial stages of endocytosis. *Ciba Found. Symp.* 176, 185-193.
 249. Vallis, Y., Wigge, P., Marks, B., Evans, P.R., and McMahon, H.T. (1999). Importance of the pleckstrin homology domain of dynamin in clathrin-mediated endocytosis. *Curr. Biol.* 9, 257-260.
 250. van der Bliek, A. and Meyerowitz, E.M. (1991). Dynamin-like protein encoded by the *Drosophila shibire* gene associated with vesicular traffic. *Nature* 351, 411-414.
-

251. van-der Blik,A., Redelmeier,T.E., Damke,H., Tisdale,E.J., Meyerowitz,E.M., and Schmid,S.L. (1993). Mutations in human dynamin block an intermediate stage in coated vesicle formation. *J.Cell Biol.* *122*, 553-563.
 252. Venyaminov,S.Y., Baikalov,I.A., Shen,Z.M., Wu,C.-S.C., and Yang,J.T. (1993). Circular Dichroic Analysis of Denatured Proteins: Inclusion of Denatured Proteins in the Reference Set. *Anal.Biochem.* *214*, 17-24.
 253. Venyaminov,S.Y. and Vassilenko,K.S. (1994). Determination of Protein Tertiary Class from Circular Dichroism Spectra. *Anal.Biochem.* *222*, 176-184.
 254. Vieira,A.V., Lamaze,C., and Schmid,S.L. (1996). Control of EGF receptor signaling by clathrin-mediated endocytosis. *Science* *274*, 2086-2089.
 255. Vitale,G., Rybin,V., Christoforidis,S., Thornqvist,P., McCaffrey,M., Stenmark,H., and Zerial,M. (1998). Distinct Rab-binding domains mediate the interaction of Rabaptin-5 with GTP-bound Rab4 and Rab5. *EMBO J.* *17*, 1941-1951.
 256. Volchuk,A., Narine,S., Foster,L.J., Grabs,D., De Camilli,P., and Klip,A. (1998). Perturbation of dynamin II with an amphiphysin SH3 domain increases GLUT4 glucose transporters at the plasma membrane in 3T3-L1 adipocytes. Dynamin II participates in GLUT4 endocytosis. *J.Biol.Chem.* *273*, 8169-8176.
 257. Wacker,I., Kaether,C., Kromer,A., Migala,A., Almers,W., and Gerdes,H.H. (1997). Microtubule-dependent transport of secretory vesicles visualized in real time with a GFP-tagged secretory protein. *J.Cell Sci.* *110*, 1453-1463.
 258. Walch,S.C., Blasi,J., Edelmann,L., Chapman,E.R., von,M.G., and Jahn,R. (1995). The t-SNAREs syntaxin 1 and SNAP-25 are present on organelles that participate in synaptic vesicle recycling. *J.Cell Biol.* *128*, 637-645.
 259. Wang,L.H., Sudhof,T.C., and Anderson,R.G. (1995). The appendage domain of alpha-adaptin is a high affinity binding site for dynamin. *J.Biol.Chem.* *270*, 10079-10083.
 260. Warnock,D.E., Baba,T., and Schmid,S.L. (1997). Ubiquitously expressed dynamin-II has a higher intrinsic GTPase activity and a greater propensity for self-assembly than neuronal dynamin-I. *Mol.Biol.Cell* *8*, 2553-2562.
 261. Warnock,D.E., Hinshaw,J.E., and Schmid,S.L. (1996). Dynamin self-assembly stimulates its GTPase activity. *J.Biol.Chem.* *271*, 22310-22314.
 262. Warnock,D.E. and Schmid,S.L. (1996). Dynamin GTPase, a force-generating molecular switch. *Bioessays* *18*, 885-893.
-

263. Waters, M.G. and Pfeffer, S.R. (1999). Membrane tethering in intracellular transport. *Curr. Opin. Cell Biol.* *11*, 453-459.
264. Webster, T.J., Naylor, D.J., Hartman, D.J., Hoj, P.B., and Hoogenraad, N.J. (1994). cDNA cloning and efficient mitochondrial import of pre-mtHSP70 from rat liver. *DNA Cell Biol.* *13*, 1213-1220.
265. Westermann, P., Knoblich, M., Maier, O., Lindschau, C., and Haller, H. (1996). Protein kinase C bound to the Golgi apparatus supports the formation of constitutive transport vesicles. *Biochem. J.* *320*, 651-658.
266. Wienke, D.C., Knetsch, M.L., Neuhaus, E.M., Reedy, M.C., and Manstein, D.J. (1999). Disruption of a dynamin homologue affects endocytosis, organelle morphology, and cytokinesis in *Dictyostelium discoideum*. *Mol. Biol. Cell* *10*, 225-243.
267. Wigge, P. and McMahon, H.T. (1998). The amphiphysin family of proteins and their role in endocytosis at the synapse. *Trends. Neurosci.* *21*, 339-344.
268. Wigge, P., Vallis, Y., and McMahon, H.T. (1997). Inhibition of receptor-mediated endocytosis by the amphiphysin SH3 domain. *Curr. Biol.* *7*, 554-560.
269. Wilsbach, K. and Payne, G.S. (1993). Vps1p, a member of the dynamin GTPase family, is necessary for Golgi membrane protein retention in *Saccharomyces cerevisiae*. *EMBO J.* *12*, 3049-3059.
270. Witke, W., Podtelejnikov, A.V., Di Nardo, A., Sutherland, J.D., Gurniak, C.B., Dotti, C., and Mann, M. (1998). In mouse brain profilin I and profilin II associate with regulators of the endocytic pathway and actin assembly. *EMBO J.* *17*, 967-976.
271. Wright, P.E. and Dyson, H.J. (1999). Intrinsically unstructured proteins: Re-assessing the protein structure-function paradigm. *J. Mol. Biol.* *293*, 321-331.
272. Yamabhai, M., Hoffman, N.G., Hardison, N.L., McPherson, P.S., Castagnoli, L., Cesareni, G., and Kay, B.K. (1998). Intersectin, a novel adaptor protein with two Eps15 homology and five Src homology 3 domains. *J. Biol. Chem.* *273*, 31401-31407.
273. Yoon, S.Y., Koh, W.S., Lee, M.K., Park, Y.M., and Han, M.Y. (1997). Dynamin II associates with Grb2 SH3 domain in Ras transformed NIH3T3 cells. *Biochem. Biophys. Res. Commun.* *234*, 539-543.
274. Yoon, Y., Pitts, K.R., Dahan, S., and McNiven, M.A. (1998). A novel dynamin-like protein associates with cytoplasmic vesicles and tubules of the endoplasmic reticulum in mammalian cells. *J. Cell Biol.* *140*, 779-793.
-

275. Zhang,C.J., Rosenwald,A.G., Willingham,M.C., Skuntz,S., Clark,J., and Kahn,R.A. (1994). Expression of a dominant allele of human ARF1 inhibits membrane traffic *in vivo*. *J.Cell Biol.* *124*, 289-300.
276. Zhang,J., Ferguson,S.S.G., Barak,L.S., Menard,L., and Caron,M.G. (1996). Dynamin and beta-arrestin reveal distinct mechanisms for G protein-coupled receptor internalization. *J.Biol.Chem.* *271*, 18302-18305.
277. Zheng,J., Cahill,S.M., Lemmon,M.A., Fushman,D., Schlessinger,J., and Cowburn,D. (1996). Identification of the binding site for acidic phospholipids on the pH domain of dynamin: implications for stimulation of GTPase activity. *J.Mol.Biol.* *255*, 14-21.
278. Zhu,Y., Traub,L.M., and Kornfeld,S. (1998). ADP-ribosylation factor 1 transiently activates high-affinity adaptor protein complex AP-1 binding sites on Golgi membranes. *Mol.Biol.Cell* *9*, 1323-1337.