

Publications of Bernhard Dobberstein: 1974 - 1993

1. Dobberstein, B., Volkmann, D., and Klämbt, D. (1974). The attachment of polyribosomes to membranes of the hypocotyl of *phaseolus vulgaris*. *Biochim. Biophys. Acta* **374**, 187-196.
2. Blobel, G., and Dobberstein, B. (1975). Transfer of proteins across membranes I. Presence of proteolytically processed and unprocessed nascent immunoglobulin light chains on membrane-bound ribosomes of murine myeloma. *J. Cell Biol.* **67**, 835-851.
3. Blobel, G., and Dobberstein, B. (1975). Transfer of proteins across membranes II. Reconstitution of functional rough microsomes from heterologous components. *J. Cell Biol.* **67**, 852-862.
4. Dobberstein, B., and Blobel, G. (1977). Functional interaction of plant ribosomes with animal microsomal membranes. *Biochem. Biophys. Res. Comm.* **74**, 1675-1682.
5. Dobberstein, B., Blobel, G., and Chua, N.-H. (1977). In vitro synthesis and processing of a putative precursor for the small subunit of ribulose- 1,5-bisphosphate carboxylase of *Chlamydomonas reinhardtii*. *Proc. Natl. Acad. Sci. USA* **74**, 1082-1085.
6. Sehgal, P. B., Dobberstein, B., and Tamm, I. (1977). Interferon messenger RNA content of human fibroblasts during induction, shutoff, and superinduction of interferon production. *Proc. Natl. Acad. Sci. USA* **74**, 3409-3413.
7. Garoff, H., Simons, K., and Dobberstein, B. (1978). Assembly of Semliki Forest virus membrane glycoprotein in the membrane of the endoplasmic reticulum in vitro. *J. Mol. Biol.* **124**, 587-600.
8. Scheele, G., Dobberstein, B., and Blobel, G. (1978). Transfer of proteins across membranes. Biosynthesis in vitro of pretrypsinogen and trypsinogen by cell fractions of canine pancreas. *Eur. J. Biochem.* **82**, 593-599.
9. Warren, G., and Dobberstein, B. (1978). Protein transfer across microsomal membranes reassembled from separated membrane components. *Nature* **273**, 569-571.

- 10.Dobberstein, B., Garoff, H., Warren, G., and Robinson, P. J. (1979). Cell-free synthesis and membrane insertion of mouse H-2D^d histocompatibility antigen and beta2-microglobulin. *Cell* 17, 759-769.
- 11.Meyer, D., and Dobberstein, B. (1980). A membrane component essential for vectorial translocation of nascent proteins across the endoplasmic reticulum: Requirements for its extraction and reassociation with the membrane. *J. Cell Biol.* 87, 498-502.
- 12.Meyer, D. I., and Dobberstein, B. (1980). Identification and characterization of a membrane component essential for the translocation of nascent secretory proteins across the membrane of the endoplasmic reticulum. *J. Cell Biol.* 87, 503-508.
- 13.Bregegere, F., Abastado, J. P., Kvist, S., Rask, L., Lalanne, J. L., Garoff, H., Cami, B., Wiman, K., Larhammar, D., Peterson, P. A., Gachelin, G., Kourilsky, P., and Dobberstein, B. (1981). Structure of C-terminal half of two H-2 antigens from cloned mRNA. *Nature* 292, 78-81.
- 14.Kvist, S., Bregegere, F., Rask, L., Cami, B., Garoff, H., Daniel, F., Wiman, K., Larhammar, D., Abastado, J. P., Gachelin, G., Peterson, P. A., Dobberstein, B., and Kourilsky, P. (1981). cDNA clone coding for part of a mouse H-2^d major histocompatibility antigen. *Proc. Natl. Acad. Sci. USA* 78, 2772-2776.
- 15.Dobberstein, B., Kvist, S., and Roberts, L. (1982). Structure and biosynthesis of histocompatibility antigens (H-2, HLA). *Phil. Trans. R. Soc. Lond. B* 300, 161-172.
- 16.Dobberstein, B., and Meyer, D. I. (1982). Protein translocation across the membrane of the endoplasmic reticulum. In: *Membranes and transport*, Vol.1, Martonosi, A.N., (ed.), (New York: Plenum Publishing Corporation), pp.213-218.
- 17.Kvist, S., Wiman, K., Claesson, L., Peterson, P. P., and Dobberstein, B. (1982). Membrane insertion and oligomeric assembly of HLA-DR histocompatibility antigens. *Cell* 29, 61-69.
- 18.Meyer, D. I., Krause, E., and Dobberstein, B. (1982). Secretory protein translocation across membranes - the role of 'docking protein'. *Nature* 297, 647-650.

- 19.Meyer, D. I., Kvist, S., and Dobberstein, B. (1982). Assembly of membrane proteins. In: Membranes in growth and development. (New York: Alan R. Liss, Inc.), pp. 23-35.
- 20.Meyer, D. I., Louvard, D., and Dobberstein, B. (1982). Characterization of molecules involved in protein translocation using a specific antibody. *J. Cell Biol.* 92, 579-583.
- 21.Wiman, K., Larhammar, D., Claesson, L., Gustafsson, K., Schenning, L., Bill, P., Böhme, J., Denaro, M., Dobberstein, B., Hammerling, U., Kvist, S., Servenius, B., Sundelin, J., Peterson, P. A., and Rask, L. (1982). Isolation and identification of a cDNA clone corresponding to an HLA-DR antigen beta-chain. *Proc. Natl. Acad. Sci. USA* 79, 1703-1707.
- 22.Xin, J.-H., Kvist, S., and Dobberstein, B. (1982). Identification of an H-2Kd gene using a specific cDNA probe. *EMBO J.* 1, 467-471.
- 23.Dobberstein, B., and Kvist, S. (1983). Assembly of histocompatibility antigens. *Meth. Enzymol.* 96, 325-331.
- 24.Dobberstein, B., Lipp, J., Lauer, W., and Singer, P. (1983). Biosynthesis and intracellular transport of Ia antigens. In: Protein Synthesis, Abraham, A.K., Elkhom, T.S. and Pryme, I.F. (eds.), (N.J., USA: Humana Press Inc.), pp.131-142.
- 25.Gundelfinger, E. D., Krause, E., Melli, M., and Dobberstein, B. (1983). The organization of the 7SL RNA in the signal recognition particle. *Nucleic Acids Res.* 11, 7363-7374.
- 26.Kvist, S., Roberts, L., and Dobberstein, B. (1983). Mouse histocompatibility genes: structure and organisation of a Kd gene. *EMBO J.* 2, 245-254.
- 27.Meyer, D. I., and Dobberstein, B. (1983). Proteins mediating vectorial translocation: Purification of the active domain of the endoplasmic reticulum docking protein. *Meth. Enzymol.* 96, 692-700.
- 28.Singer, P. A., Lauer, W., Dembic, Z., Mayer, W. E., Lipp, J., Koch, N., Hä默ling, G., Klein, J., and Dobberstein, B. (1984). Structure of the murine Ia-associated invariant (Ii) chain as deduced from a cDNA clone. *EMBO J.* 3, 873-877.
- 29.Stueber, D., Ibrahim, I., Cutler, D., Dobberstein, B., and Bujard, H. (1984). A novel in vitro transcription-translation system: accurate and efficient

- synthesis of single proteins from cloned DNA sequences. *EMBO J.* **3**, 3143-3148.
30. Spena, A., Krause, E., and Dobberstein, B. (1985). Translation efficiency of zein mRNA is reduced by hybrid formation between the 5'-and 3'-untranslated region. *EMBO J.* **4**, 2153-2158.
31. Haeuptle, M.-T., and Dobberstein, B. (1986). Intracellular targeting and sorting of newly synthesized proteins. In: *Proc. Falk Symposium 43: Modulation of liver cell expression*. W. Reutter, H. Popper, I. M. Arias, P. C. Heinrich, D. Keppler and L. Landmann, eds. (Basel: MTP Press Limited), pp. 143-155.
32. Haeuptle, M. T., Frank, R., and Dobberstein, B. (1986). Translation arrest by oligodeoxynucleotides complementary to mRNA coding sequences yields polypeptides of predetermined length. *Nucl. Acids Res.* **14**, 1427-1448.
33. Lipp, J., and Dobberstein, B. (1986). Signal recognition particle-dependent membrane insertion of mouse invariant chain: A membrane-spanning protein with a cytoplasmically exposed amino terminus. *J. Cell Biol.* **102**, 2169-2175.
34. Lipp, J., and Dobberstein, B. (1986). The membrane spanning segment of invariant chain (I gamma) contains a potentially cleavable signal sequence. *Cell* **46**, 1103-1112.
35. Bujard, H., Gentz, R., Lanzer, M., Stueber, D., Müller, M., Ibrahimi, I., Haeuptle, M. T., and Dobberstein, B. (1987). A T5 promoter-based transcription-translation system for the analysis of proteins in vitro and in vivo. *Meth. Enzymol.* **155**, 416-433.
36. Dobberstein, B. (1987). Structure and function of the signal recognition particle (SRP). *Mol. Biol. Rep.* **12**, 213-217.
37. Koch, N., Lauer, W., Habicht, J., and Dobberstein, B. (1987). Primary structure of the gene for the murine Ia antigen-associated invariant chains (Ii). An alternatively spliced exon encodes a cysteine-rich domain highly homologous to a repetitive sequence of thyroglobulin. *EMBO J.* **6**, 1677-1683.
38. Lipp, J., Dobberstein, B., and Haeuptle, M.-T. (1987). Signal recognition particle arrests elongation of nascent secretory and membrane proteins at multiple sites in a transient manner. *J. Biol. Chem.* **262**, 1680-1684.

- 39.Scoulica, E., Krause, E., Meese, K., and Dobberstein, B. (1987). Disassembly and domain structure of the proteins in the signal-recognition particle. *Eur. J. Biochem.* *163*, 519-528.
- 40.Dobberstein, B. (1988). Components involved in protein translocation across the membrane of the endoplasmic reticulum. In NATO ASI Series, Vol. Vol. H16: Membrane Biogenesis, Op den Kamp, J.A.F. (ed.) (Berlin Heidelberg: Springer-Verlag) pp.323-335.
- 41.Lingelbach, K., and Dobberstein, B. (1988). An extended RNA/RNA duplex structure within the coding region of mRNA does not block translational elongation. *Nucleic Acids Res.* *16*, 3405-3414.
- 42.Lingelbach, K., Zwieb, C., Webb, J. R., Marshallsay, C., Hoben, P. J., Walter, P., and Dobberstein, B. (1988). Isolation and characterization of a cDNA clone encoding the 19 kDa protein of signal recognition particle (SRP): expression and binding to 7SL RNA. *Nucl. Acids Res.* *16*, 9431-9442.
- 43.Lipp, J., and Dobberstein, B. (1988). Signal and membrane anchor functions overlap in the type II membrane protein IgCAT. *J. Cell Biol.* *106*, 1813-1820.
- 44.Haeuptle, M.-T., Flint, N., Gough, N. M., and Dobberstein, B. (1989). A tripartite structure of the signals that determine protein insertion into the endoplasmic reticulum membrane. *J. Cell Biol.* *108*, 1227-1236.
- 45.Koch, N., Lipp, J., Pessara, U., Schenk, K., Wraight, C., and Dobberstein, B. (1989). MHC class II invariant chains in antigen processing and presentation. *Trends Biochem. Sci.* *14*, 383-386.
- 46.Lipp, J., Flint, N., Haeuptle, M.-T., and Dobberstein, B. (1989). Structural requirements for membrane assembly of proteins spanning the membrane several times. *J. Cell Biol.* *109*, 2013-2022.
- 47.Römisch, K., Webb, J., Herz, J., Prehn, S., Frank, R., Vingron, M., and Dobberstein, B. (1989). Homology of 54K protein of signal-recognition particle, docking protein and two *E. coli* proteins with putative GTP-binding domains. *Nature* *340*, 478-482.
- 48.Bakke, O., and Dobberstein, B. (1990). MHC class II-associated invariant chain contains a sorting signal for endosomal compartments. *Cell* *63*, 707-716.

- 49.Görlich, D., Prehn, S., Hartmann, E., Herz, J., Otto, A., Kraft, R., Wiedmann, M., Knespel, S., Dobberstein, B., and Rapoport, T. A. (1990). The signal-sequence receptor consists of two subunits and is part of a translocation complex in the endoplasmic reticulum as probed by bifunctional reagents. *J. Cell Biol.* *111*, 2283-2294.
- 50.Herz, J., Flint, N., Stanley, K., Frank, R., and Dobberstein, B. (1990). The 68 KDa protein of signal recognition particle contains a glycine-rich region also found in certain RNA-binding proteins. *FEBS Lett.* *276*, 103-107.
- 51.Prehn, S., Herz, J., Hartmann, E., Kurzchalia, T. V., Frank, R., Römisch, K., Dobberstein, B., and Rapoport, T. A. (1990). Structure and biosynthesis of the signal-sequence receptor. *Eur. J. Biochem.* *188*, 439-445.
- 52.Ribes, V., Römisch, K., Giner, A., Dobberstein, B., and Tollervey, D. (1990). *E. coli* 4.5S RNA is part of a ribonucleoprotein particle that has properties related to signal recognition particle. *Cell* *63*, 591-600.
- 53.Römisch, K., Ribes, V., High, S., Lütcke, H., Tollervey, D., and Dobberstein, B. (1990). Structure and function of signal recognition particle (SRP). *Mol. Biol. Rep.* *14*, 71-72.
- 54.Römisch, K., Webb, J., Lingelbach, K., Gausepohl, H., and Dobberstein, B. (1990). The 54-kD protein of signal recognition particle contains a methionine-rich RNA binding domain. *J. Cell Biol.* *111*, 1793-1802.
- 55.High, S., and Dobberstein, B. (1991). The signal sequence interacts with the methionine-rich domain of the 54-kD protein of signal recognition particle. *J. Cell Biol.* *113*, 229-233.
- 56.High, S., Flint, N., and Dobberstein, B. (1991). Requirements for the membrane insertion of signal-anchor type proteins. *J. Cell Biol.* *113*, 25-34.
- 57.High, S., Görlich, D., Wiedmann, M., Rapoport, T. A., and Dobberstein, B. (1991). The identification of proteins in the proximity of signal-anchor sequences during their targeting to and insertion into the membrane of the ER. *J. Cell Biol.* *113*, 35-44.
- 58.Dobberstein, B. (1992). Who needs peptide transporters? *Nature* *355*, 109-110.
- 59.High, S., and Dobberstein, B. (1992). Membrane protein insertion into the endoplasmic reticulum: signals, machinery and mechanisms. In *Membrane*

biogenesis and protein targeting. W. Neupert and R. Lill, eds. Elsevier Science Publishers), pp. 105-118.

- 60.High, S., and Dobberstein, B. (1992). Mechanisms that determine the transmembrane disposition of proteins. *Current Op. Cell Biol.* *4*, 581-586.
- 61.Luirink, J., High, S., Wood, H., Giner, A., Tollervey, D., and Dobberstein, B. (1992). Signal-sequence recognition by an *Escherichia coli* ribonucleoprotein complex. *Nature* *359*, 741-743.
- 62.Lütcke, H., High, S., Römisch, K., Ashford, A. J., and Dobberstein, B. (1992). The methionine-rich domain of the 54 kDa subunit of signal recognition particle is sufficient for the interaction with signal sequences. *EMBO J.* *11*, 1543-1551.
- 63.Zachgo, S., Dobberstein, B., and Griffiths, G. (1992). A block in degradation of MHC class II associated invariant chain correlates with a reduction in transport from endosome carrier vesicles to the prelysosome compartment. *J. Cell Science* *103*, 811-822.
- 64.High, S., Andersen, S. S. L., D., G., Hartmann, E., Prehn, S., Rapoport, T. A., and Dobberstein, B. (1993). Sec61p is adjacent to nascent type I and type II signal-anchor proteins during their membrane insertion. *J. Cell Biol.* *121*, 743-750.
- 65.High, S., Martoglio, B., Görlich, D., S.L.S., A., Ashford, A. J., Giner, A., Hartmann, E., Prehn, S., Rapoport, T. A., Dobberstein, B., and Brunner, J. (1993). Site-specific photocross-linking reveals that Sec61p and TRAM contact different regions of a membrane-inserted signal sequence. *J. Biol. Chem.* *268*, 26745-26751.
- 66.Lütcke, H., and Dobberstein, B. (1993). Assembly of SRP from single polypeptides and 7S RNA. In *The Translational Apparatus*. K. H. Nierhaus, F. Franceschi, A. R. Subramanian, V. A. Erdmann and B. Wittmann-Liebold, eds. (New York: Plenum Press) pp. 627-633.
- 67.Lütcke, H., and Dobberstein, B. (1993). Structure and function of signal recognition particle (SRP). *Mol. Biol. Reports* *18*, 143-147.
- 68.Lütcke, H., Prehn, S., Ashford, A. J., Remus, M., Frank, R., and Dobberstein, B. (1993). Assembly of the 68- and 72-kD Proteins of Signal Recognition Particle with 7S RNA. *J. Cell Biol.* *121*, 977-985.

69.Pieters, J., Bakke, O., and Dobberstein, B. (1993). The MHC class II-associated invariant chain contains two endosomal targeting signals within its cytoplasmic tail. *J. Cell Sci.* *106*, 831-846.