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EDUCATION

Abitur	1973	Goethe Oberschule (Gymnasium), Berlin-Lichterfelde
Vordiplom	1976	In Chemistry, Freie Universität Berlin
M.Sc.	1977	In Organic Chemistry, Vanderbilt University, Nashville, TN
Ph.D.	1981	In Cell Biology, The Rockefeller University, New York, NY

RESEARCH EXPERIENCE

1976-1977	Direct Exchange Fellow, Vanderbilt University, Laboratory of Dr. T.M. Harris
1977-1981	Graduate Fellow, The Rockefeller University, Laboratory of Dr. G. Blobel
1981-1982	Postdoctoral Fellow, The Rockefeller University, Laboratory of Dr. G. Blobel
1982-1983	Assistant Professor, Laboratory of Cell Biology, The Rockefeller University
1983-1986	Assistant Professor, Department of Biochemistry & Biophysics, University of California, San Francisco (UCSF)
1986-1991	Associate Professor, Department of Biochemistry & Biophysics, UCSF
1991-present	Professor, Department of Biochemistry & Biophysics, UCSF
1997-present	Investigator, Howard Hughes Medical Institute
2001-2008	Chair, Department of Biochemistry & Biophysics Department, UCSF

HONORS & AWARDS

1983	Searle Scholar Award
1988	Eli Lilly Award for Fundamental Research in Biological Chemistry
1988	Passano Award
1989	Alfred P. Sloan Award
1993	NIH MERIT Award
1996	Harvey Lecturer, Rockefeller University, New York
1998	American Academy of Microbiology (elected Fellow)
1998	Feodor-Lynen-Lecture, Mosbach Kolloquium, Germany
2001	American Academy of Arts & Sciences (elected Fellow)
2004	National Academy of Sciences (elected Member)
2004	European Molecular Biology Organization (elected Associate Member)
2004	Virchow Medal and Lecture, Universität Würzburg
2005	Wiley Prize in Biomedical Sciences (with Kazutoshi Mori)
2006	George E. Palade Distinguished Lecture, Wayne State University School of Medicine
2006	47 th Stadtler Lecture, University of Texas
2006	Leopoldina Academy of Scientists (elected member)
2007	50 th Faculty Research Lecturer, University of California, San Francisco

2009 Stein and Moore Award, The Protein Society
2009 Gairdner International Award (with Kazutoshi Mori)
2009 E.B. Wilson Award, American Society for Cell Biology
2011 Otto Warburg Medal, The German Society for Biochemistry
2011 Glenn Award for Research in Biological Mechanisms of Aging

PUBLICATIONS

ARTICLES IN JOURNALS

1. Walter P & Harris TM. (1978) Annelation of ethyl propiolate with ethyl piperolate. *J. Org. Chem.* **43**, 4250-4252.
2. Clevestine EC, Walter P, Harris TM, & Broquist HP. (1979) Biosynthesis of slaframine, (1S,6S,8aS)-1-Acetoxy-6-aminoctahydroindolizine, a parasymphomimetic alkaloid of fungal origin. 4. Metabolic fate of ethyl pipercolylacetate, 1,3-Dioxooctahydroindolizine, and 1-Hydroxyoctahydroindolizine in *Rhizoctonia leguminicola*. *Biochemistry* **18**, 3663-3667.
3. Walter P, Jackson RC, Marcus MM, Lingappa VR, & Blobel G. (1979) Tryptic dissection and reconstitution of translocation activity for nascent presecretory proteins across microsomal membranes. *Proc. Nat. Acad. Sci. USA* **76**, 1795-1799. PMID: PMC383478
4. Jackson RC, Walter P, & Blobel G. (1980) Secretion requires a cytoplasmically disposed sulfhydryl of the RER membrane. *Nature* **286**, 174-176.
5. Walter P & Blobel G. (1980) Purification of a membrane-associated protein complex required for protein translocation across the endoplasmic reticulum. *Proc Natl Acad Sci USA* **77**, 7112-7116. PMID: PMC350451
6. Walter P, Ibrahimi I, & Blobel G. (1981) Translocation of proteins across the endoplasmic reticulum. I. Signal recognition protein (SRP) binds to in-vitro-assembled polysomes synthesizing secretory protein. *J Cell Biol* **91**, 545-550.
7. Walter P & Blobel G. (1981) Translocation of proteins across the endoplasmic reticulum. II. Signal recognition protein (SRP) mediates the selective binding to microsomal membranes of in-vitro-assembled polysomes synthesizing secretory protein. *J Cell Biol* **91**, 551-556.
8. Walter P & Blobel G. (1981) Translocation of proteins across the endoplasmic reticulum. III. Signal recognition protein (SRP) causes signal sequence-dependent and site-specific arrest of chain elongation that is released by microsomal membranes. *J Cell Biol* **91**, 557-561.
9. Stoffel W, Blobel G, & Walter P. (1981) Synthesis *in vitro* and translocation of apolipoprotein AI across microsomal vesicles. *Eur J Biochem* **120**, 519-522.
10. Anderson DJ, Walter P, & Blobel G. (1982) Signal recognition protein is required for the integration of acetylcholine receptor delta subunit, a transmembrane glycoprotein, into the endoplasmic reticulum membrane. *J Cell Biol* **93**, 501-506.
11. Müller M, Ibrahimi I, Chang CN, Walter P, & Blobel G. (1982) A bacterial secretory protein requires signal recognition particle for translocation across mammalian endoplasmic reticulum. *J Biol Chem* **257**, 11860-11863.
12. Gilmore R, Blobel G, & Walter P. (1982) Protein translocation across the endoplasmic reticulum. I. Detection in the microsomal membrane of a receptor for the signal recognition particle. *J Cell Biol* **95**, 463-469.
13. Gilmore R, Walter P, & Blobel G. (1982) Protein translocation across the endoplasmic reticulum. II. Isolation and characterization of the signal recognition particle receptor. *J Cell Biol* **95**, 470-477.
14. Walter P & Blobel G. (1982) Signal recognition particle contains a 7S RNA essential for protein translocation across the endoplasmic reticulum. *Nature* **299**, 691-698.
15. Erickson AH, Walter P & Blobel G. (1983) Translocation of a lysosomal enzyme across the microsomal membrane requires signal recognition particle. *Biochem Biophys Res Commun* **115**, 275-280.
16. Walter P & Blobel G. (1983) Disassembly and reconstitution of signal recognition particle. *Cell* **34**, 525-533.
17. Walter P & Blobel G. (1983) Subcellular distribution of signal recognition particle and 7SL-RNA determined with polypeptide-specific antibodies and complementary DNA probe. *J Cell Biol* **97**, 1693-1699.

18. Bonatti S, Migliaccio G, Blobel G, & Walter P. (1984) Role of signal recognition particle in the membrane assembly of Sindbis viral glycoproteins. *Eur J Biochem* **140**, 499-502.
19. Andrews DW, Walter P, & Ottensmeyer FP. (1985) Structure of the signal recognition particle by electron microscopy. *Proc Natl Acad Sci USA* **82**, 785-789. PMID: PMC397131
20. Siegel V & Walter P. (1985) Elongation arrest is not a prerequisite for secretory protein translocation across the microsomal membrane. *J. Cell Biol.* **100**, 1913-1921.
21. Lauffer L, Garcia PD, Harkins RN, Coussens L, Ullrich A, & Walter P. (1985) Topology of the SRP receptor in endoplasmic reticulum membrane. *Nature* **318**, 334-338.
22. Siegel V & Walter P. (1986) Removal of the Alu structural domain from signal recognition particle leaves its translocation promoting activity intact. *Nature* **320**, 81-84.
23. Hansen W, Garcia PD, & Walter P. (1986) *In vitro* protein translocation across the yeast endoplasmic reticulum: ATP-dependent post-translational translocation of the prepro- α -factor. *Cell* **45**, 397-406.
24. Krieg UC, Walter P, & Johnson AE. (1986) Photocrosslinking of the signal sequence of nascent prolactin to the 54-kilodalton polypeptide of the signal recognition particle. *Proc Natl Acad Sci USA* **83**, 8604-8608. PMID: PMC386979
25. Tajima S, Lauffer L, Rath V, & Walter P. (1986) The signal recognition particle receptor is a complex that contains two distinct polypeptide chains. *J Cell Biol* **103**, 1167-1178.
26. Rapoport TA, Heinrich R, Walter P, & Schulmeister T. (1987) Mathematical modeling of the effects of the signal recognition particle on translation and translocation of proteins across the endoplasmic reticulum membrane. *J Mol Biol* **195**, 621-636.
27. Garcia PD, Ghrayeb J, Inouye M, & Walter P. (1987) Wild type and mutant signal peptides of *E. coli* outer membrane lipoprotein interact with equal efficiency with mammalian signal recognition particle. *J Biol Chem* **262**, 9463-9468.
28. Andrews DW, Walter P, & Ottensmeyer FP. (1987) Evidence for an extended 7SL RNA structure in the signal recognition particle. *EMBO J.* **6**, 3471-3477. PMID: PMC553805
29. Walter P. (1987). Signal recognition: Two receptors act sequentially. *Nature* **328**, 763-764.
30. Garcia PD, Ou J-H, Rutter WJ, & Walter P. (1988) Targeting of the hepatitis B virus precore protein to the ER membrane: after signal peptide cleavage translocation can be aborted and the product released into the cytoplasm. *J. Cell Biol.* **106**, 1093-1104.
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33. Siegel V & Walter P. (1988) Binding sites of the 19-kDa and 68/72-kDa signal recognition particle (SRP) proteins on SRP RNA as determined by protein-RNA "footprinting". *Proc Natl Acad Sci USA* **85**, 1801-1805. PMID: PMC279867
34. Garcia PD & Walter P. (1988) Full-length prepro- α -factor can be translocated across the mammalian microsomal membrane only if translation has not terminated. *J. Cell Biol.* **106**, 1043-1048.
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37. Poritz MA, Siegel V, Hansen WJ, & Walter P. (1988) Small ribonucleoproteins in *Schizosaccharomyces pombe* and *Yarrowia lipolytica* homologous to signal recognition particle. *Proc Natl Acad Sci USA* **85**, 4315-4319. PMID: PMC280419
38. Wolin SL & Walter P. (1988) Ribosome pausing and stacking during translation of a eukaryotic mRNA. *EMBO J* **7**, 3559-3569. PMID: PMC454858

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43. Bernstein HD, Poritz M, Strub K, Hoben PJ, Brenner S, & Walter P. (1989) Model for signal sequence recognition from amino-acid sequence of the 54K subunit of the signal recognition particle. *Nature* **340**, 482-486.
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48. Hann BC, Poritz MA, & Walter P. (1989) *Saccharomyces cerevisiae* and *Schizo-saccharomyces pombe* contain a homologue to the 54 kD subunit of the signal recognition particle that in *S. cerevisiae* is essential for growth. *J Cell Biol* **109**, 3223-3230.
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52. Zopf D, Bernstein HD, Johnson AE, & Walter P. (1990) The methionine-rich domain of the 54 kd protein subunit of the signal recognition particle contains an RNA binding site and can be crosslinked to a signal sequence. *EMBO J* **9**: 4511-4517. PMID: PMC552245
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54. Strub K, Moss J, & Walter P. (1991) Binding sites of the 9- and 14-kilodalton heterodimeric protein subunit of the signal recognition particle (SRP) are contained exclusively in the Alu domain of SRP RNA and contain a sequence motif that is conserved in evolution. *Mol Cell Biol* **11**: 3949-3959. PMID: PMC361190
55. Nunnari J, Zimmerman DL, Ogg S, & Walter P. (1991) Characterization of the ribosome binding activity of the endoplasmic reticulum membrane. *Nature* **352**: 638-640.
56. Brennwald PJ, Siegel V, Walter P, & Wise JA. (1991) Sequence and structure of Tetrahymena SRP RNA. *Nucl Acids Res* **19**: 1942. PMID: PMC328128
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61. Koppelman B, Zimmerman D, Walter P, & Brodsky FM. (1992) Evidence for peptide transport across microsomal membranes. *Proc Natl Acad Sci USA* **89**: 3908-3912. PMID: PMC525600
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71. Nunnari J, Fox T, & Walter P. (1993) A mitochondrial protease with two catalytic subunits of non-overlapping specificities. *Science* **262**: 1997-2004
72. Miller JD, Bernstein HD, and Walter P. (1994) Interaction of *E. coli* Ffh/4.5S ribonucleoprotein and FtsY mimics that of mammalian signal recognition particle and its receptor. *Nature* **367**: 657-659.
73. Brown JD, Hann BC, Medzihradzky KF, Niwa M, Burlingame AL, & Walter P. (1994) Subunits of the *Saccharomyces cerevisiae* signal recognition particle required for its functional expression. *EMBO J.* **13**: 4390-4400. PMID: PMC395366
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75. Matlack KE & Walter P. (1995) The 70 carboxyl-terminal amino acids of nascent secretory proteins are protected from proteolysis by the ribosome and the protein translocation apparatus of the endoplasmic reticulum membrane. *J Biol Chem* **270**: 6170-6180.
76. Miller JD, Tajima S, Lauffer L & Walter P. (1995) The β -subunit of the signal recognition particle receptor is a transmembrane GTPase that anchors the α -subunit, a peripheral membrane GTPase, to the endoplasmic reticulum membrane. *J Cell Biol* **128**: 273-282.

77. Young JC, Ursini J, Legate KR, Miller JD, Walter P, & Andrews DW. (1995) An amino-terminal domain containing hydrophobic and hydrophilic sequences binds the signal recognition particle receptor α subunit to the β subunit on the endoplasmic reticulum membrane. *J Biol Chem* **270**: 15650-15657.
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79. Powers T & Walter P. (1995) Reciprocal stimulation of GTP hydrolysis by two directly interacting GTPases. *Science* **269**: 1422-1424.
80. Ng DTW & Walter P. (1996). ER membrane protein complex required for nuclear fusion. *J Cell Biol* **132** (4): 499-509. PMID: PMC2199862
81. Powers T & Walter P. (1996) The nascent polypeptide-associated complex modulates interactions between the signal recognition particle and the ribosome. *Curr Biol* **6**: 331-338.
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85. Sidrauski C, Cox JS, & Walter P. (1996) tRNA ligase is required for regulated mRNA splicing in the unfolded protein response. *Cell* **87**: 405-413.
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91. Sidrauski C & Walter P. (1997) The transmembrane kinase Ire1p is a site-specific endoribonuclease that initiates regulated mRNA splicing in the unfolded protein response. *Cell* **90**: 1031-1039.
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98. Powers T & Walter P. (1999) Regulation of ribosome biogenesis by the rapamycin-sensitive TOR-signaling pathway in *Saccharomyces cerevisiae*. *Molecular Biology of the Cell* **10**: 987-1000. PMID: PMC25225
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