

8 REFERENCES

1. Altschul, S. F., T. L. Madden, A. A. Schaffer, J. Zhang, Z. Zhang, W. Miller, and D. J. Lipman. 1997. Gapped BLAST and PSI-BLAST: a new generation of protein database search programs. *Nucleic Acids Res.* **25**:3389-3402.
2. Backert, S., Y. Churin, and T. F. Meyer. 2002. *Helicobacter pylori* type IV secretion, host cell signalling and vaccine development. *Keio J. Med.* **51 Suppl** 2:6-14.
3. Backert, S., E. Nickisch-Rosenegk, and T. F. Meyer. 1998. Potential role of two *Helicobacter pylori* relaxases in DNA transfer? *Mol. Microbiol.* **30**:673-674.
4. Balzer, D., W. Pansegrouw, and E. Lanka. 1994. Essential motifs of relaxase (TraI) and TraG proteins involved in conjugative transfer of plasmid RP4. *J. Bacteriol.* **176**:4285-4295.
5. Balzer, D., G. Ziegenlin, W. Pansegrouw, V. Kruft, and E. Lanka. 1992. KorB protein of promiscuous plasmid RP4 recognizes inverted sequence repetitions in regions essential for conjugative plasmid transfer. *Nucleic Acids Res.* **20**:1851-1858.
6. Baron, C., D. O'Callaghan, and E. Lanka. 2002. Bacterial secrets of secretion: EuroConference on the biology of type IV secretion processes. *Mol. Microbiol.* **43**:1359-1365.
7. Beijersbergen, A., A. Den Dulk-Ras, R. A. Schilperoort, and P. J. J. Hooykaas. 1992. Conjugative transfer by the virulence system of *Agrobacterium tumefaciens*. *Science* **256**:1324-1327.
8. Blomfield, I. C., V. Vaughn, R. F. Rest, and B. I. Eisenstein. 1991. Allelic exchange in *Escherichia coli* using the *Bacillus subtilis* *sacB* gene and a temperature-sensitive pSC101 replicon. *Mol. Microbiol.* **5**:1447-1457.
9. Bolland, S., M. Llosa, P. Avila, and F. de la Cruz. 1990. General organization of the conjugal transfer genes of the IncW plasmid R388 and interactions between R388 and IncN and IncP plasmids. *J. Bacteriol.* **172**:5795-5802.
10. Boyer, H. W. and D. Roulland-Dussoix. 1969. A complementation analysis of the restriction and modification of DNA in *Escherichia coli*. *J. Mol. Biol.* **41**:459-472.
11. Bullock, W. O., J. M. Fernandez, and J. M. Short. 1987. XL1-Blue: a high efficiency plasmid transforming *recA* *Escherichia coli* strain with beta-galactosidase selection. *Biotechniques* **5**:376-378.
12. Burns, D. L. 1999. Biochemistry of type IV secretion. *Curr. Opin. Microbiol.* **2**:25-29.
13. Cabezón, E., E. Lanka, and F. de la Cruz. 1994. Requirements for mobilization of plasmids RSF1010 and ColE1 by the IncW plasmid R388: *trwB* and RP4 *traG* are interchangeable. *J. Bacteriol.* **176**:4455-4458.
14. Cabezón, E., J. I. Sastre, and F. de la Cruz. 1997. Genetic evidence of a coupling role for the TraG protein family in bacterial conjugation. *Mol. Gen. Genet.* **254**:400-406.
15. Cavalli, L. L., E. M. Lederberg, and J. Lederberg. 1953. An effective factor controlling sex compatibility in *Bacterium coli*. *J. Gen. Microbiol.* **8**:89-89.
16. Censini, S., C. Lange, Z. Xiang, J. E. Crabtree, P. Ghiara, M. Borodovsky, R. Rappuoli, and A. Covacci. 1996. *cag*, a pathogenicity island of *Helicobacter pylori*, encodes type I-specific and disease-associated virulence factors. *Proc Natl. Acad. Sci. U. S. A* **93**:14648-14653.
17. Cheng, Y. and W. H. Prusoff. 1973. Relationship between the inhibition constant (K_I) and the concentration of inhibitor which causes 50 per cent inhibition (I₅₀) of an enzymatic reaction. *Biochem. Pharmacol.* **22**:3099-3108.
18. Christie, P. J. 1997. *Agrobacterium tumefaciens* T-complex transport apparatus: a paradigm for a new family of multifunctional transporters in eubacteria. *J. Bacteriol.* **179**:3085-3094.
19. Christie, P. J. 2001. Type IV secretion: intercellular transfer of macromolecules by systems ancestrally related to conjugation machines. *Mol. Microbiol.* **40**:294-305.

20. Covacci, A., J. L. Telford, G. Del Giudice, J. Parsonnet, and R. Rappuoli. 1999. *Helicobacter pylori* virulence and genetic geography. *Science* **284**:1328-1333.
21. Craig-Mylius, K. A. and A. A. Weiss. 1999. Mutants in the *ptlA-H* genes of *Bordetella pertussis* are deficient for pertussis toxin secretion. *FEMS Microbiol. Lett.* **179**:479-484.
22. Das, A. and Y. H. Xie. 1998. Construction of transposon Tn3phoA: its application in defining the membrane topology of the *Agrobacterium tumefaciens* DNA transfer proteins. *Mol. Microbiol.* **27**:405-414.
23. Di Jeso, F. 1968. Ammonium sulfate concentration conversion nomograph for 0 degrees. *J. Biol. Chem.* **243**:2022-2023.
24. Di Laurenzio, L., L. S. Frost, and W. Paranchych. 1992. The TraM protein of the conjugative plasmid F binds to the origin of transfer of the F and ColE1 plasmids. *Mol. Microbiol.* **6**:2951-2959.
25. Disqué-Kochem, C. and B. Dreiseikelmann. 1997. The cytoplasmic DNA-binding protein TraM binds to the inner membrane protein TraD in vitro. *J. Bacteriol.* **179**:6133-6137.
26. Eisenbrandt, R., M. Kalkum, E. M. Lai, R. Lurz, C. I. Kado, and E. Lanka. 1999. Conjugative pili of IncP plasmids, and the Ti plasmid T pilus are composed of cyclic subunits. *J. Biol. Chem.* **274**:222548-222555.
27. Fischer, W., J. Püls, R. Buhrdorf, B. Gebert, S. Odenbreit, and R. Haas. 2001. Systematic mutagenesis of the *Helicobacter pylori* cag pathogenicity island:essential genes for CagA translocation in host cells and induction of interleukin-8. *Mol. Microbiol.* **42**:1337-1348.
28. Frost, L. S., K. Ippen-Ihler, and R. A. Skurray. 1994. Analysis of the sequence and gene products of the transfer region of the F sex factor. *Microbiol. Rev.* **58**:162-210.
29. Fürste, J. P., W. Pansegrouw, G. Ziegelin, M. Kröger, and E. Lanka. 1989. Conjugative transfer of promiscuous IncP plasmids: interaction of plasmid-encoded products with the transfer origin. *Proc. Natl. Acad. Sci. USA* **86**:1771-1775.
30. Gomis-Rüth, F. X., G. Moncalián, F. de la Cruz, and M. Coll. 2002. Conjugative plasmid protein TrwB, an integral membrane type IV secretion system coupling protein. Detailed structural features and mapping of the active site cleft. *J. Biol. Chem.* **277**:7556-7566.
31. Gomis-Rüth, F. X., G. Moncalián, R. Perez-Luque, A. Gonzalez, E. Cabezón, F. de la Cruz, and M. Coll. 2001. The bacterial conjugation protein TrwB resembles ring helicases and F1-ATPase. *Nature* **409**:637-641.
32. Hamilton, C. M., H. Lee, P. L. Li, D. M. Cook, K. R. Piper, S. B. von Bodman, E. Lanka, W. Ream, and S. K. Farrand. 2000. TraG from RP4 and TraG and VirD4 from Ti plasmids confer relaxosome specificity to the conjugal transfer system of pTiC58. *J. Bacteriol.* **182**:1541-1548.
33. Hanahan, D. 1983. Studies on transformation of *Escherichia coli* with plasmids. *J. Mol. Biol.* **166**:557-580.
34. Hayes, W. 1953. Observations on a transmissible agent determining sexual differentiation in *B. coli*. *J. Gen. Microbiol.* **8**:72-88.
35. Heinemann, J. A. and G. F. Sprague, Jr. 1989. Bacterial conjugative plasmids mobilize DNA transfer between bacteria and yeast. *Nature* **340**:205-209.
36. Hiratsuka, T. 1976. Fluorescence properties of 2' (or 3')-O-(2,4,6-trinitrophenyl) adenosine 5'-triphosphate and its use in the study of binding to heavy meromyosin ATPase. *Biochim. Biophys. Acta* **453**:293-297.
37. Hiratsuka, T. 1982. Biological activities and spectroscopic properties of chromophoric and fluorescent analogs of adenine nucleoside and nucleotides, 2',3'-O- (2,4,6-trinitrocyclohexadienylidene) adenosine derivatives. *Biochim. Biophys. Acta* **719**:509-517.
38. Hofreuter, D., S. Odenbreit, and R. Haas. 2001. Natural transformation competence in *Helicobacter pylori* is mediated by the basic components of a type IV secretion system. *Mol. Microbiol.* **41**:379-391.

39. **Hormaeche, I., I. Alkorta, F. Moro, J. M. Valpuesta, F. M. Goñi, and F. de la Cruz.** 2002. Purification and properties of TrwB, a hexameric, ATP-binding integral membrane protein essential for R388 plasmid conjugation. *J. Biol. Chem.* **277**:46456-46462.
40. **Hulme, E. C. and N. J. M. Birdsall.** 1992. Strategy and tactics in receptor-binding studies, p. 63-174. In E. C. Hulme (ed.), *Receptor-Ligand Interactions, A Practical Approach*. Oxford University Press, Inc., New York.
41. **Johnston, R. F., S. C. Pickett, and D. L. Barker.** 1990. Autoradiography using storage phosphor technology. *Electrophoresis* **11**:355-360.
42. **Kado, C. I.** 2000. The role of the T-pilus in horizontal gene transfer and tumorigenesis. *Curr. Opin. Microbiol.* **3**:643-648.
43. **Krause, S.** 1999. Die Transferproteine TraG und TrbB des konjugativen Plasmides RP4: Strukturelle und funktionelle Gemeinsamkeiten zu analogen Komponenten anderer Transportsysteme. Ph.D. thesis. Freie Universität Berlin, Berlin, Germany
44. **Krause, S., M. Bárcena, W. Pansegrouw, R. Lurz, J. M. Carazo, and E. Lanka.** 2000. Sequence-related protein export NTPases encoded by the conjugative transfer region of RP4 and by the *cag* pathogenicity island of *Helicobacter pylori* share similar hexameric ring structures. *Proc. Natl. Acad. Sci. USA* **97**:3067-3072.
45. **Krause, S., W. Pansegrouw, R. Lurz, F. de la Cruz, and E. Lanka.** 2000. Enzymology of type IV macromolecule secretion systems: the conjugative transfer regions of plasmids RP4 and R388 and the *cag* pathogenicity island of *Helicobacter pylori* encode structurally and functionally related nucleoside triphosphate hydrolases. *J. Bacteriol.* **182**:2761-2770.
46. **Kubala, M., K. Hofbauerova, R. Ettrich, V. Kopecky, V., R. Krumscheid, J. Plasek, J. Teisinger, W. Schoner, and E. Amler.** 2002. Phe(475) and Glu(446) but not Ser(445) participate in ATP-binding to the alpha-subunit of Na⁽⁺⁾/K⁽⁺⁾-ATPase. *Biochem. Biophys. Res. Commun.* **297**:154.
47. **Kuipers, E. J., D. A. Israel, J. G. Kusters, and M. J. Blaser.** 1998. Evidence for a conjugation-like mechanism of DNA transfer in *Helicobacter pylori*. *J. Bacteriol.* **180**:2901-2905.
48. **Kumar, R. B. and A. Das.** 2002. Polar location and functional domains of the *Agrobacterium tumefaciens* DNA transfer protein VirD4. *Mol. Microbiol.* **43**:1523-1532.
49. **Kyhse-Anderson, J.** 1984. Electroblotting of multiple gels: a simple apparatus without buffer for rapid transfer of proteins from polyacrylamide to nitrocellulose. *J. Biochem. Biophys. Methods* **10**:203-209.
50. **Lacapere, J. J., N. Bennett, Y. Dupont, and F. Guillain.** 1990. pH and magnesium dependence of ATP binding to sarcoplasmic reticulum ATPase. Evidence that the catalytic ATP-binding site consists of two domains. *J. Biol. Chem.* **265**:348-353.
51. **Laemmli, U. K.** 1970. Cleavage of structural proteins during the assembly of the head of bacteriophage T4. *Nature* **227**:680-685.
52. **Lederberg, J. and E. Tatum.** 1946. Gene recombination in *E. coli*. *Nature* **158**:558-558.
53. **Lee, M. H., N. Kosuk, J. Bailey, B. Traxler, and C. Manoil.** 1999. Analysis of F factor TraD membrane topology by use of gene fusions and trypsin-sensitive insertions. *J. Bacteriol.* **181**:6108-6113.
54. **Lessl, M., D. Balzer, K. Weyrauch, and E. Lanka.** 1993. The mating pair formation system of plasmid RP4 defined by RSF1010 mobilization and donor-specific phage propagation. *J. Bacteriol.* **175**:6415-6425.
55. **Lessl, M., W. Pansegrouw, and E. Lanka.** 1992. Relationship of DNA-transfer-systems: essential transfer factors of plasmids RP4, Ti and F share common sequences. *Nucleic Acids Res.* **20**:6099-6100.
56. **Llosa, M., S. Bolland, and F. de la Cruz.** 1994. Genetic organization of the conjugal DNA processing region of the IncW plasmid R388. *J. Mol. Biol.* **235**:448-464.
57. **Lowry, O. H., N. J. Rosebrough, A. L. Farr, and R. J. Randall.** 1951. Protein measurement with the folin phenol reagent. *J. Biol. Chem.* **193**:265-275.

58. **Maneewannakul, K., P. Kathir, S. Endley, D. Moore, J. Manchak, L. Frost, and K. Ippen-Ihler.** 1996. Construction of derivatives of the F plasmid pOX-*tra*715: characterization of *traY* and *traD* mutants that can be complemented *in trans*. Mol. Microbiol. **22**:197-205.
59. **Manoil, C. and J. Bailey.** 1997. A simple screen for permissive sites in proteins: analysis of *Escherichia coli lac* permease. J. Mol. Biol. **267**:250-263.
60. **McConlogue, L., M. A. Brow, and M. A. Innis.** 1988. Structure-independent DNA amplification by PCR using 7-deaza-2'- deoxyguanosine. Nucleic Acids Res. **16**:9869.
61. **Messing, J.** 1983. New M13 vectors for cloning. Methods Enzymol. **101**:20-78.
62. **Miller, J. H.** 1972. Experiments in Molecular Genetics, p. 431-433. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y.
63. **Moczydłowski, E. G. and P. A. Fortes.** 1981. Characterization of 2',3'-O-(2,4,6-trinitrocyclohexadienyliidine)adenosine 5'-triphosphate as a fluorescent probe of the ATP site of sodium and potassium transport adenosine triphosphatase. Determination of nucleotide binding stoichiometry and ion-induced changes in affinity for ATP. J. Biol. Chem. **256**:2346-2356.
64. **Moncalián, G., E. Cabezón, I. Alkorta, M. Valle, F. Moro, J. M. Valpuesta, F. M. Goñi, and F. de la Cruz.** 1999. Characterization of ATP and DNA binding activities of TrwB, the coupling protein essential in plasmid R388 conjugation. J. Biol. Chem. **274**:36117-36124.
65. **Moore, D., B. A. Sowa, and K. Ippen-Ihler.** 1981. The effect of *tra* mutations on the synthesis of the F-pilin membrane polypeptide. Mol. Gen. Genet. **184**:260-264.
66. **Moutin, M. J., M. Cuillel, C. Rapin, R. Miras, M. Anger, A. M. Lompre, and Y. Dupont.** 1994. Measurements of ATP binding on the large cytoplasmic loop of the sarcoplasmic reticulum Ca(2+)-ATPase overexpressed in *Escherichia coli*. J. Biol. Chem. **269**:11147-11154.
67. **Nurse, P., K. H. Zavitz, and K. J. Marians.** 1991. Inactivation of the *Escherichia coli priA* DNA replication protein induces the SOS response. J. Bacteriol. **173**:6686-6693.
68. **Odenbreit, S., J. Puls, B. Sedlmaier, E. Gerland, W. Fischer, and R. Haas.** 2000. Translocation of *Helicobacter pylori* CagA into gastric epithelial cells by type IV secretion. Science **287**:1497-1500.
69. **Panicker, M. M. and E. G. Minkley, Jr.** 1992. Purification and properties of the F sex factor TraD protein, an inner membrane conjugal transfer protein. J. Biol. Chem. **267**:12761-12766.
70. **Pansegrouw, W., D. Balzer, V. Kruft, R. Lurz, and E. Lanka.** 1990. *In vitro* assembly of relaxosomes at the transfer origin of plasmid RP4. Proc. Natl. Acad. Sci. USA **87**:6555-6559.
71. **Pansegrouw, W. and E. Lanka.** 1996. Enzymology of DNA transfer by conjugative mechanisms. Prog. Nucleic Acid Res. Mol. Biol. **54**:197-251.
72. **Pansegrouw, W. and E. Lanka.** 1996. Mechanisms of initiation and termination reactions in conjugative DNA processing. Independence of tight substrate binding and catalytic activity of relaxase (TraI) of IncP α plasmid RP4. J. Biol. Chem. **271**:13068-13076.
73. **Pansegrouw, W., E. Lanka, P. T. Barth, D. H. Figurski, D. G. Guiney, D. Haas, D. R. Helinski, H. Schwab, V. A. Stanisich, and C. M. Thomas.** 1994. Complete nucleotide sequence of Birmingham IncP alpha plasmids. Compilation and comparative analysis. J. Mol. Biol. **239**:623-663.
74. **Patel, S. S. and K. M. Picha.** 2000. Structure and function of hexameric helicases. Annu. Rev. Biochem. **69**:651-697.
75. **Rabel, C., A. M. Grahn, R. Lurz, and E. Lanka.** 2003. The VirB4 family of proposed traffic nucleoside triphosphatases: common motifs in plasmid RP4 TrbE are essential for conjugation and phage adsorption. J. Bacteriol. **185**:1045-1058.
76. **Rees, C. E. and B. M. Wilkins.** 1990. Protein transfer into the recipient cell during bacterial conjugation: studies with F and RP4. Mol. Microbiol. **4**:1199-1205.
77. **Rivas, S., S. Bolland, E. Cabezón, F. M. Goñi, and F. de la Cruz.** 1997. TrwD, a protein encoded by the IncW plasmid R388, displays an ATP hydrolase activity essential for bacterial conjugation. J. Biol. Chem. **272**:25583-25590.

78. Rosenberg, A. H., B. N. Lade, D. S. Chui, S. W. Lin, J. J. Dunn, and F. W. Studier. 1987. Vectors for selective expression of cloned DNAs by T7 RNA polymerase. *Gene* **56**:125-135.
79. Salmond, G. P. C. 1994. Secretion of extracellular virulence factors by plant pathogenic bacteria. *Annu. Rev. Phytopathol.* **32**:181-200.
80. Sambrook, J., E. T. Fritsch, and T. Maniatis. 1989. Molecular cloning: a laboratory manual, 2nd ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.
81. Sanger, F., S. Nicklen, and A. R. Coulson. 1977. DNA sequencing with chain-terminating inhibitors. *Proc. Natl. Acad. Sci. USA* **74**:5463-5467.
82. Saraste, M., P. R. Sibbald, and A. Wittinghofer. 1990. The P-loop - a common motif in ATP- and GTP-binding proteins. *Trends Biochem. Sci.* **15**:430-434.
83. Sastre, J. I., E. Cabezón, and F. de la Cruz. 1998. The carboxyl terminus of protein TraD adds specificity and efficiency to F-plasmid conjugative transfer. *J. Bacteriol.* **180**:6039-6042.
84. Savvides, S. N., H. J. Yeo, M. R. Beck, F. Blaesing, R. Lurz, E. Lanka, R. Buhrdorf, W. Fischer, R. Haas, and G. Waksman. 2003. VirB11 ATPases are dynamic hexameric assemblies: New insights into bacterial type IV secretion. *EMBO J.* **22**:1969-1980.
85. Schneider, E. and S. Hunke. 1998. ATP-binding-cassette (ABC) transport systems: functional and structural aspects of the ATP-hydrolyzing subunits/domains. *FEMS Microbiol. Rev.* **22**:1-20.
86. Schrammeijer, B., E. Risseeuw, W. Pansegrau, T. J. Regensburg-Tuink, W. L. Crosby, and P. J. Hooykaas. 2001. Interaction of the virulence protein VirF of *Agrobacterium tumefaciens* with plant homologs of the yeast Skp1 protein. *Curr. Biol.* **11**:258-262.
87. Schröder, G., S. Krause, E. L. Zechner, B. Traxler, H. J. Yeo, R. Lurz, G. Waksman, and E. Lanka. 2002. TraG-like proteins of DNA transfer systems and of the *Helicobacter pylori* type IV secretion system: inner membrane gate for exported substrates? *J. Bacteriol.* **184**:2767-2779.
88. Schulein, R. and C. Dehio. 2002. The VirB/VirD4 type IV secretion system of *Bartonella* is essential for establishing intraerythrocytic infection. *Mol. Microbiol.* **46**:1053-1067.
89. Segal, E. D., J. Cha, J. Lo, S. Falkow, and L. S. Tompkins. 1999. Altered states: involvement of phosphorylated CagA in the induction of host cellular growth changes by *Helicobacter pylori*. *Proc. Natl. Acad. Sci. U. S. A* **96**:14559-14564.
90. Segal, G., J. J. Russo, and H. A. Shuman. 1999. Relationships between a new type IV secretion system and the *icm/dot* virulence system of *Legionella pneumophila*. *Mol. Microbiol.* **34**:799-809.
91. Sexton, J. A. and J. P. Vogel. 2002. Type IVB secretion by intracellular pathogens. *Traffic*. **3**:178-185.
92. Smith, E. F. 1907. A plant-tumor of bacterial origin. *Science* **25**:671-673.
93. Spiess, E. and R. Lurz. 2001. Electron microscopic analysis of nucleic acids and nucleic acid-protein complexes. *Methods Microbiol.* **20**:293-323.
94. Stein, M., R. Rappuoli, and A. Covacci. 2000. Tyrosine phosphorylation of the *Helicobacter pylori* CagA antigen after *cag*-driven host cell translocation. *Proc Natl. Acad. Sci. U. S. A* **97**:1263-1268.
95. Strack, B., M. Lessl, R. Calendar, and E. Lanka. 1992. A common sequence motif, -E-G-Y-A-T-A-, identified within the primase domains of plasmid-encoded I- and P-type DNA primases and the α protein of the *Escherichia coli* satellite phage P4. *J. Biol. Chem.* **267**:13062-13072.
96. Studier, F. W. and B. A. Moffatt. 1986. Use of bacteriophage T7 RNA polymerase to direct selective high-level expression of cloned genes. *J. Mol. Biol.* **189**:113-130.
97. Szpirer, C. Y., M. Faelen, and M. Couturier. 2000. Interaction between the RP4 coupling protein TraG and the pBHR1 mobilization protein Mob. *Mol. Microbiol.* **37**:1283-1292.
98. Thompson, J. D., D. G. Higgins, and T. J. Gibson. 1994. CLUSTAL W: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, position-specific gap penalties and weight matrix choice. *Nucleic Acids Res.* **22**:4673-4680.

99. **Thorsted, P. A., D. P. Macartney, P. Akhtar, A. S. Haines, N. Ali, P. Davidson, T. Stafford, M. J. Pocklington, W. Pansegrouw, B. M. Wilkins, E. Lanka, and C. M. Thomas.** 1998. Complete sequence of the IncP- β plasmid R751 - implications for evolution and organization of the IncP backbone. *J. Mol. Biol.* **282**:969-990.
100. **Tomb, J. F., O. White, A. R. Kerlavage, R. A. Clayton, G. G. Sutton, R. D. Fleischmann, K. A. Ketchum, H. P. Klenk, S. Gill, B. A. Dougherty, K. Nelson, J. Quackenbush, L. Zhou, E. F. Kirkness, S. Peterson, B. Loftus, D. Richardson, R. Dodson, H. G. Khalak, A. Glodek, K. McKenney, L. M. Fitzgerald, N. Lee, M. D. Adams, and J. C. Venter.** 1997. The complete genome sequence of the gastric pathogen *Helicobacter pylori*. *Nature* **388**:539-547.
101. **Trieu-Cuot, P., C. Carlier, P. Martin, and P. Courvalin.** 1987. Plasmid transfer by conjugation from *Escherichia coli* to Gram-positive bacteria. *FEMS Microbiol. Lett.* **48**:289-294.
102. **Vanoye, C. G., G. G. MacGregor, K. Dong, L. Tang, A. S. Buschmann, A. E. Hall, M. Lu, G. Giebisch, and S. C. Hebert.** 2002. The carboxyl termini of K(ATP) channels bind nucleotides. *J. Biol. Chem.* **277**:23260-23270.
103. **Vergunst, A. C., B. Schrammeijer, A. Dulk-Ras, C. M. de Vlaam, T. J. Regensburg-Tuink, and P. J. Hooykaas.** 2000. VirB/D4-dependent protein translocation from *Agrobacterium* into plant cells. *Science* **290**:979-982.
104. **von Heijne, G.** 1989. Control of topology and mode of assembly of a polytopic membrane protein by positively charged residues. *Nature* **341**:456-458.
105. **Walker, J. E., M. Saraste, M. J. Runswick, and N. J. Gay.** 1982. Distantly related sequences in the α - and β -subunits of ATP synthase, myosin, kinases, and other ATP-requiring enzymes and a common nucleotide binding fold. *EMBO J.* **1**:945-951.
106. **Waters, V. L.** 1999. Conjugative transfer in the dissemination of beta-lactam and aminoglycoside resistance. *Front Biosci.* **4**:D433-D456.
107. **Waters, V. L.** 2001. Conjugation between bacterial and mammalian cells. *Nat. Genet.* **29**:375-376.
108. **Waters, V. L., B. Strack, W. Pansegrouw, E. Lanka, and D. G. Guiney.** 1992. Mutational analysis of essential IncP α plasmid transfer genes *traF* and *traG* and involvement of *traF* in phage sensitivity. *J. Bacteriol.* **174**:6666-6673.
109. **Weber, J. and A. E. Senior.** 1997. Binding of TNP-ATP and TNP-ADP to the non-catalytic sites of *Escherichia coli* F1-ATPase. *FEBS Lett.* **412**:169-172.
110. **Wilkins, B. M. and E. Lanka.** 1993. DNA processing and replication during plasmid transfer between Gram-negative bacteria, p. 105. In D. B. Clewell (ed.), *Bacterial Conjugation*. Plenum Press, New York.
111. **Willetts, N. and B. M. Wilkins.** 1984. Processing of plasmid DNA during bacterial conjugation. *Microbiol. Rev.* **48**:24-41.
112. **Winans, S. C., D. L. Burns, and P. J. Christie.** 1996. Adaptation of a conjugal transfer system for the export of pathogenic macromolecules. *Trends Microbiol.* **4**:64-68.
113. **Yanisch-Perron, C., J. Vieira, and J. Messing.** 1985. Improved M13 phage cloning vectors and host strains: nucleotide sequences of the M13mp18 and pUC19 vectors. *Gene* **33**:103-119.
114. **Yeo, H. J., S. N. Savvides, A. B. Herr, E. Lanka, and G. Waksman.** 2000. Crystal structure of the hexameric traffic ATPase of the *Helicobacter pylori* type IV secretion system. *Mol. Cell* **6**:1461-1472.
115. **Zhu, J., P. M. Oger, B. Schrammeijer, P. J. Hooykaas, S. K. Farrand, and S. C. Winans.** 2000. The bases of crown gall tumorigenesis. *J. Bacteriol.* **182**:3885-3895.
116. **Ziegelin, G., W. Pansegrouw, B. Strack, D. Balzer, M. Kröger, V. Kruft, and E. Lanka.** 1991. Nucleotide sequence and organization of genes flanking the transfer origin of promiscuous plasmid RP4. *DNA Sequence* **1**:303-327.
117. **Ziegelin, G., E. Scherzinger, R. Lurz, and E. Lanka.** 1993. Phage P4 α protein is multifunctional with origin recognition, helicase and primase activities. *EMBO J.* **12**:3703-3708.