

## List of Publications - Jörg Hacker

### Original Papers

#### 1976 - 1985

1. Ezold, R., Linde, K., Hacker, J., Rothenberg, G., Kleber, S. 1976. S-R-Phagenspektrum von *Salmonella*-Mutanten mit nicht-vermehrungsbegrenzenden Markern. Zschr. Ges. Hyg. (Anh. zum 1. Beiheft) **22**, 7-11.
2. Hacker, J., Ezold, R., Linde, K., Kleber, S. 1976. Änderungen des serologischen-, lytischen- und Virulenzverhaltens durch *S. typhimurium* F' Plasmide. Zschr. Ges. Hyg. (Anh. zum 1. Beiheft) **22**, 12-22.
3. Hughes, C., Müller, D., Hacker, J., Goebel, W. 1982. Genetics and pathogenic role of *Escherichia coli* hemolysin. Toxicon **20**, 247-252.
4. Hof, H., Emmerling, P., Hacker, J., Hughes, C. 1982. The role of macrophages in primary and secondary infection of mice with *Salmonella typhimurium*. Ann. Immunol. (Inst. Pasteur) **133C**, 21-33.
5. Berger, H., Hacker, J., Juarez, A., Hughes, C., Goebel, W. 1982. Cloning of the chromosomal determinants encoding hemolysin production and mannose-resistant hemagglutination in *Escherichia coli*. J. Bacteriol. **152**, 1241-1247.
6. Hacker, J., Hughes, C., Hof, H., Goebel, W. 1983. Cloned hemolysin genes from *Escherichia coli* that cause urinary tract infection. determine different levels of toxicity in mice. Infect. Immun. **42**, 57-63.
7. Hacker, J., Knapp, S., Goebel, W. 1983. Spontaneous deletions and flanking regions of the chromosomal inherited hemolysin determinant of an *Escherichia coli* O6 strain. J. Bacteriol. **154**, 1145-1152.
8. Hacker, J., Schröter, G., Schrettenbrunner, A., Hughes, C., Goebel, W. 1983. Hemolytic *Escherichia coli* strains in the human fecal flora as potential urinary pathogens. Zbl. Bakt. Hyg. I. Abt. Orig. **A 254**, 370-378.
9. Hughes, C., Hacker, J., Roberts, A., Goebel, W. 1983. Hemolysin production as a virulence marker in symptomatic and asymptomatic urinary tract infections caused by *Escherichia coli*. Infect. Immun., **39**, 546-551.
10. Knapp, S., Hacker, J., Then, I., Müller, D., Goebel, W. 1984. Multiple copies of hemolysin genes and associated sequences in the chromosome of uropathogenic *Escherichia coli* strains. J. Bacteriol. **159**, 1027-1033.
11. König, W., Scheffer, J., Bremm, K. D., Hacker, J., Goebel, W. 1985. The role of bacterial adherence and toxin production from *E. coli* on leukotriene generation from human polymorphonuclear granulocytes. Int. Archs. Allergy Appl. Immunol. **77**, 118-120.

12. Hacker, J., Schmidt, G., Hughes, C., Knapp, S., Marget, M., Goebel, W. 1985. Cloning and characterization of genes involved in the production of mannose-resistant, neuraminidase-susceptible (X) fimbriae from an uropathogenic O6:K15:K31 *Escherichia coli* strain. *Infect. Immun.* **47**, 434-440.
13. Brändle, H. P., Hof, H., Hacker, J., Oberhauser, O. 1985. Experimentelle Untersuchung über die Wirkung von Betalactam-Antibiotika bei der Infektion der Maus mit einem Betalactamase-produzierenden Stamm von *Salmonella typhimurium*. *Zschr. Antimikrobiol. Antineopl. Chemother.* **3**, 57-64.
14. Hacker, J., Hof, H., Hughes, C., Goebel, W. 1985. *Salmonella typhimurium* strains carrying hemolysin plasmids and cloned hemolysin genes from *Escherichia coli*. *Ann. Microbiol. (Inst. Pasteur)* **136A**, 289-301.
15. Scheffer, J., König, W., Hacker, J., Goebel, W. 1985. Bacterial adherence and hemolysin production from *Escherichia coli* induces histamine and leukotriene release from various cells. *Infect. Immun.* **50**, 271-278.
16. Knapp, S., Then, I., Wels, W., Michel, W., Tschäpe, H., Hacker, J., Goebel, W. 1985. Comparison of the flanking regions between different hemolysin determinants of *Escherichia coli*. *Mol. Gen. Genet.* **200**, 385-392.

## **1986**

17. Hacker, J., Schrettenbrunner, A., Schröter, G., Schmidt, G., Düvel, H., Goebel, W. 1986. Characterization of *Escherichia coli* wild-type strains by means of agglutination with antisera raised against cloned P-, S- and MS-fimbriae antigens, hemagglutination, serotyping and hemolysin-production. *Zbl. Bakt. Hyg. I. Abt. Orig.* **A261**, 219-231.
18. Moser, I., Orskov, I., Hacker, J., Jann, K. 1986. Characterization of a monoclonal antibody against the fimbrial F8 antigen of *Escherichia coli*. *FEMS Microbiol. Lett.* **34**, 329-334.
19. Hacker, J., Ott, M., Schmidt, G., Hull, R., Goebel, W. 1986. Molecular cloning of the F8 antigen from *Escherichia coli*. *FEMS Microbiol. Lett.* **36**, 139-144.
20. Knapp, S., Hacker, J., Jarchau, T., Goebel, W. 1986. Large instable regions in the chromosome affect virulence properties of an uropathogenic *Escherichia coli* O6 strain. *J. Bacteriol.* **168**, 22-30.
21. Hof, H., Christen, A., Hacker, J. 1986. Comparative therapeutic activities of Ciprofloxacin, Amoxicillin, Ceftriaxone and Cotrimoxazole in a new model of experimental infection with *Escherichia coli*. *Infection* **14**, 190-194.
22. Korhonen, T. K., Parkkinen, J., Hacker, J., Finne, J., Pere, A., Rhen, M., Holthöfer, H. 1986. Binding of *Escherichia coli* S fimbriae to human kidney epithelium. *Infect. Immun.* **54**, 322-327.
23. Hacker, J., Hof, H., Emödy, L., Goebel, W. 1986. Influence of cloned *Escherichia coli* hemolysin genes, S fimbriae and serum resistance on pathogenicity in different animal models. *Microb. Pathogenesis* **1**, 533-547.

24. Ott, M., Hacker, J., Schmoll, T., Jarchau, T., Korhonen, T. K., Goebel, W. 1986. Analysis of the genetic determinants coding for the S fimbrial adhesin (*sfa*) in different *Escherichia coli* strains causing meningitis or urinary tract infections. *Infect. Immun.* **54**, 646-653.
25. Marre, R., Hacker, J., Henkel, W., Goebel, W. 1986. Contribution of cloned virulence factors from uropathogenic *E. coli* strains to nephropathogenicity in an experimental rat pyelonephritis model. *Infect. Immun.* **54**, 761-767.
26. König, B., König, W., Scheffer, J., Hacker, J., Goebel, W. 1986. On the role of *Escherichia coli*  $\alpha$ -hemolysin and bacterial adherence infection - requirement for release of inflammatory mediators from granulocytes and mast cells. *Infect. Immun.* **54**, 886-892.

### **1987**

27. Marre, R., Hacker, J. 1987. Role of S and common type I-fimbriae of *Escherichia coli* in experimental upper and lower urinary tract infection. *Microb. Pathogenesis*, **2**, 223-226.
28. Hughes, C., Hacker, J., Düvel, H., Goebel, W. 1987. Chromosomal deletions and rearrangements cause coordinate loss of hemolysis, fimbriation and serum resistance in an uropathogenic strain of *Escherichia coli*. *Microb. Pathogenesis* **2**, 227-230.
29. Chakraborty, T., Kathariou, S., Hacker, J., Hof, H., Huhle, B., Wagner, W., Kuhn, M., Goebel, W. 1987. Molecular analysis of bacterial cytolysins. *Rev. Infect. Dis.* **9**, 456-466.
30. Schmoll, T., Hacker, J., Goebel, W. 1987. Nucleotide sequence of the *sfaA* gene coding for the S fimbrial protein subunit of *Escherichia coli*. *FEMS Microbiol. Lett.* **41**, 229-235.
31. Moch, T., Hoschützky, H., Hacker, J., Krönke, K.-D., Jann, K. 1987. Isolation and characterization of the  $\alpha$ -Sialyl- $\beta$  2-3-Galactosyl (S)-Specific Adhesin fimbriated *Escherichia coli*. *Proc. Natl. Acad. Sci. USA* **84**, 3462-3466.
32. Ott, M., Schmoll, T., Goebel, W., Van Die, I., Hacker, J. 1987. Comparison of the genetic determinant coding for the S-fimbrial adhesin (*sfa*) of *Escherichia coli* to other chromosomally encoded fimbrial determinants. *Infect. Immun.* **55**, 1940-1943.
33. Ulmer, E., Hacker, J., Fasske, B., Schmidt, G. 1987. Isolation and characterization of phages which recognize O18 *E. coli* strains. *Zbl. Bakt. Mikrobiol. Hyg. I. Abt.* **A 266**, 403-411.

### **1988**

34. Parkkinen, J., Korhonen, T. K., Pere, A., Hacker, J., Soinila, S. 1988. Binding sites in the rat brain for *Escherichia coli* S fimbriae associated with neonatal meningitis. *J. Clin. Invest.* **81**, 860-865.
35. Wirbelauer, J., Hof, H., Hacker, J. 1988. Die therapeutische Wirksamkeit von Desacetylcefotaxim, einem Metaboliten von Cefotaxim, auf die Infektion von *Escherichia coli*. *Zschr. Antimikr. Antineopl. Chemother.* **6**, 7-10.

36. Ott, M., Hoschützky, H., Jann, K., Van Die, I., Hacker, J. 1988. Gene clusters for S fimbrial adhesin (*sfa*) and F1C Fimbriae (*foc*) of *Escherichia coli*: Comparative aspects of structure and function. *J. Bacteriol.* **170**, 3983-3990.
37. Pawelzik, M., Heesemann, J., Hacker, J., Opferkuch, W. 1988. Cloning and characterization of a new type of fimbria (S/F1C-related fimbria) expressed by an *Escherichia coli* O75:K1:H7 blood culture isolate. *Infect. Immun.* **56**, 2918-2924.
38. Munoa, F., Hacker, J., Juarez, A. 1988. Characterization of a chromosomal mutant that blocks hemolysin excretion in *Escherichia coli*. *FEMS Microbiol. Lett.* **56**, 167-172.

### **1989**

39. Krallmann-Wenzel, U., Ott, M., Hacker, J., Schmidt, G. 1989. Chromosomal mapping of genes encoding mannose sensitive (type I) and mannose resistant (F8P) fimbriae of *Escherichia coli* O18:K5:H5. *FEMS Microbiol. Lett.* **58**, 315-322.
40. Marre, R., Hacker, J., Wood, G., Schmidt, G. 1989. Oral vaccination of rats with live avirulent *Salmonella* derivatives expressing adhesive fimbrial agents of uropathogenic *Escherichia coli*. *FEMS Microbiol. Immunol.* **47**, 229-236.
41. König, W., König, B., Scheffer, J., Hacker, J., Goebel, W. 1989. Role of cloned virulence factors (mannose-resistant hemagglutination, mannose-resistant adhesins) from uropathogenic *Escherichia coli* strains in release of inflammatory mediators from neutrophils and mast cells. *Immunology* **67**, 401-407.
42. Gadeberg, O. V., Hacker, J., Orskov, 1989. Role of  $\alpha$ -hemolysin for the *in vitro* phagocytosis and intra-cellular killing of *Escherichia coli*. *Zbl. Bakt. Mikrobiol. Hyg. I. Abt.* **271**, 205-213.
43. Marre, R., Hacker, J., Braun, V. 1989. The cell-bound hemolysin of *Serratia marcescens* contributes to uropathogenicity. *Microb. Pathogenesis* **7**, 153-156.
44. Schmoll, T., Hoschützky, H., Morschhäuser, J., Lottspeich, F., Jann, K., Hacker, J. 1989. Analysis of genes coding for the Sialic acid-binding adhesin and two other minor fimbrial subunits of the S-fimbrial adhesin determinant of *Escherichia coli*. *Molec. Microbiol.* **3**, 1735-1744.

### **1990**

45. Riegmann, N., Kusters, R., Van Veggel, H., Bergmans, H., Van Bergen en Henegouwen, P., Hacker, J., Van Die, I. 1990. F1C fimbriae of an uropathogenic *Escherichia coli*: Genetic and functional organization of the *foc* gene cluster and identification of minor subunits. *J. Bacteriol.* **172**, 1114-1120.
46. Hacker, J., Bender, L., Ott, M., Wingeder, J., Lund, B., Marre, R., Goebel, W. 1990. Deletions of chromosomal regions coding for fimbriae and hemolysins occur *in vivo* and *in vitro* in various extraintestinal *Escherichia coli* isolates. *Microb. Pathogenesis* **8**, 213-225.
47. Morschhäuser, J., Hoschützky, H., Jann, K., Hacker, J. 1990. Functional analysis of the Sialic acid-binding adhesin SfaS of pathogenic *Escherichia coli* by site-specific mutagenesis. *Infect. Immun.* **58**, 2133-2138.

48. Schmoll, T., Ott, M., Ougeda, B., Hacker, J. 1990. Use of a wild-type gene fusion to determine the influence of environmental conditions on expression of the S fimbrial adhesin in an *Escherichia coli* pathogen. *J. Bacteriol.* **172**, 5103-5111.
49. Ventur, Y., Scheffer, J., Hacker, J., König, W. 1990. Effects of adhesins from mannose-resistant *Escherichia coli* on mediator release from human lymphocytes, monocytes and basophils and from polymorphonuclear granulocytes. *Infect. Immun.* **58**, 1500-1508.
50. Marre, R., Kreft, B., Hacker, J. 1990. Genetically engineered S and F1C fimbriae differ in their contribution to adherence of *Escherichia coli* to cultured renal tubular cells. *Infect. Immun.* **58**, 3434-3437.
51. Bender, L., Ott, M., Marre, R., Hacker, J. 1990. Genome analysis of *Legionella spp.* by orthogonal field alternation gel electrophoresis. *FEMS Microbiol. Lett.* **72**, 253-258.
52. Schmoll, T., Morschhäuser, J., Ott, M., Ludwig, B., Van Die, I., Hacker, J. 1990. Complete genetic organization and functional aspects of the *Escherichia coli* S fimbrial adhesin determinant: nucleotide sequence of the genes *sfaB*, C, D, E, F. *Microb. Pathogenesis* **9**, 331-343.

## **1991**

53. Rdest, U., Wintermeyer, E., Ludwig, B., Hacker, J. 1991. Legiolysin, a new hemolysin from *L. pneumophila*. *Zbl. Bakteriologie* **274**, 471-474.
54. Schrotten, H., Wolske, A., Plagmann, R., Hanisch, F. G., Hacker, J., Uhlenbrück, G., Wahn, V. 1991. Binding of cloned S-fimbriated *E. coli* to human buccal epithelial cells-different inhibition of binding by neonatal saliva and adult saliva. *Zbl. Bakteriologie* **274**, 514-518.
55. Ott, M., Bender, L., Marre, R., Hacker, J. 1991. Pulsed field electrophoresis of genomic restriction fragments for the detection of nosocomial *Legionella pneumophila* in hospital water supplies. *J. Clin. Microbiol.* **29**, 813-815.
56. Hacker, J., Ott, M., Ludwig, B., Rdest, U. 1991. Intracellular survival and expression of virulence determinants of *Legionella pneumophila*. *Infection* **19**, 198-201.
57. Ott, M., Hacker, J. 1991. Analysis of the variability of S fimbriae expression in an *Escherichia coli* pathogen. *FEMS Microbiol. Lett.* **79**, 233-238.
58. Wintermeyer, E., Rdest, U., Ludwig, B., Debes, A., Hacker, J. 1991. Characterization of legiolysin (*lly*); responsible for hemolytic activity, colour production and fluorescence of *Legionella pneumophila*. *Molec. Microbiol.* **5**, 1135-1143.
59. Blum, G., Ott, M., Cross, A., Hacker, J. 1991. Virulence determinants of *Escherichia coli* O6 extraintestinal isolates analysed by Southern hybridizations and DNA long range mapping techniques. *Microb. Pathogenesis* **10**, 127-136.
60. Parkkinen, J., Hacker, J., Korhonen, T. K. 1991. Enhancement of tissue plasminogen activator-catalyzed plasminogen activation by *Escherichia coli* S fimbriae associated with neonatal septicaemia and meningitis. *Thrombosis and Haemostasis* **65**, 483-486.

61. Ludwig, B., Schmid, A., Marre, R., Hacker, J. 1991. Cloning, genetic analysis and nucleotide sequence of a determinant coding for a 19 kd peptidoglycan-associated protein (Ppl) of *Legionella pneumophila*. *Infect. Immun.* **59**, 2515-2521.
62. Ott, M., Bender, L., Blum, G., Schmittroth, M., Achtmann, M., Tschäpe, H., Hacker, J. 1991. Virulence patterns and long range mapping of extraintestinal *Escherichia coli* K1, K5 and K100 isolates: Use of pulse field gel electrophoresis. *Infect. Immun.* **59**, 2664-2672.
63. Bender, L., Ott, M., Debes, A., Rdest, U., Heesemann, J., Hacker, J. 1991. Distribution, expression and long range mapping of legiolysin gene (*lly*) specific DNA sequences in *Legionellae*. *Infect. Immun.* **59**, 3333-3336.
64. Ott, M., Messner, P., Heesemann, J., Marre, R., Hacker, J. 1991. Temperature dependent expression of flagella in *Legionella*. *J. Gen. Microbiol.* **137**, 1955-1961.
65. Van Die, I., Kramer, C., Hacker, J., Bergmans, H., Jongen, W., Hoekstra, W. 1991. Nucleotide sequence of the genes coding for minor fimbrial subunits of the F1C fimbriae of *Escherichia coli*. *Res. Microbiol. (Inst. Pasteur)* **142**, 653-658.
66. Ott, M., Bender, L., Chirinos, E., Ehret, W., Hacker, J. 1991. Phenotype versus genotype of the 19 kd peptido-glycan associated protein of *Legionella* (PplA) among *Legionellae* and other gram-negative bacteria. *Microb. Pathogenesis* **11**, 357-365.
67. Lück, P. C., Bender, L., Ott, M., Helbig, J. H., Hacker, J. 1991. Analysis of *Legionella pneumophila* serogroup 6 strains isolated from a hospital warm water supply over a three-year period by using genomic long-range mapping techniques and monoclonal antibodies. *Appl. Environm. Microbiol.* **57**, 3226-3231.

## **1992**

68. Hacker, J., Ott, M., Blum, G., Marre, R., Heesemann, J., Tschäpe, H., Goebel, W. 1992. Genetics of *Escherichia coli* uropathogenicity: Analysis of the O6:K15:H31 isolate 536. *Zbl. Bakt.* **276**, 165-175.
69. Tschäpe, H., Bender, L., Ott, M., Wittig, W., Hacker, J. 1992. Restriction fragments length polymorphism and virulence pattern of the veterinary pathogen *Escherichia coli* O139:K82:H1. *Zbl. Bakt.* **276**, 264-272.
70. Fischer, G., Bang, H., Ludwig, B., Mann, K. H., Hacker, J. 1992. Mip protein of *Legionella pneumophila* exhibits peptidyl-prolyl *cis-trans*-isomerase (PPIase) activity. *Molec. Microbiol.* **7**, 1375-1383.
71. Zingler, G., Ott, M., Blum, G., Falkenhagen, U., Naumann, G., Sokolowska-Köhler, W., Hacker, J. 1992. Clonal analysis of *Escherichia coli* serotype O6 strains from urinary tract infections. *Microb. Pathogenesis* **12**, 299-310.
72. Schrotten, H., Hanisch, F. G., Plogmann, R., Hacker, J., Uhlenbruck, G., Wahn, V. 1992. Inhibition of Adhesion of S-fimbriated *Escherichia coli* to buccal epithelial cells by human milk fat globule membrane components: a novel aspect of protective function of mucins in the non-immunoglobulin fraction. *Infect. Immun.* **60**, 2893-2899.

73. Schroten, H., Lethen, A., Hanisch, F., G., Plogmann, R., Hacker, J., Nobis-Bosch, R., Wahn, V. 1992. Inhibition of adhesion of S-fimbriated *Escherichia coli* to epithelial cells by meconium feces of breast fed and formula fed newborns - mucins are the major inhibitor component. *J. Pediatr. Gastroenterol. Nutr.* **15**, 150-158.
74. Linhardt, F., Ziebuhr, W., Meyer, P., Witte, W., Hacker, J. 1992. Pulsed field gel electrophoresis of genomic restriction fragments as a tool for the epidemiological analysis of *Staphylococcus aureus* and coagulase-negative Staphylococci. *FEMS Microbiol. Lett.* **95**, 181-186.
75. Ott, M., Bender, L., Lück, P. C., Meyer, P., Hacker, J. 1992. Distribution of *Legionellae* in a hospital water system: prevalence of immunologically and genetically related *Legionella pneumophila* serogroup 6 isolates. *FEMS Microbiol. Lett.* **95**, 201-206.
76. Schroten, H., Steinig, M., Plogmann, R., Hanisch, F. G., Hacker, J., Herzig, P., Wahn, V. 1992. S-fimbriae mediated adhesin of *Escherichia coli* to human buccal epithelial cells is age independent. *Infection* **20**, 273-275.

### 1993

77. Morschhäuser, J., Uhlin, B. E., Hacker, J. 1993. Transcriptional analysis and regulation of the *sfa* determinant coding for S fimbria of pathogenic *E. coli* strains. *Mol. Gen. Gen.* **238**, 97-105.
78. Hacker, J., Kestler, H., Hoschützky, H., Jann, K., Lottspeich, F., Korhonen, T. K. 1993. Cloning and characterization of the S fimbrial adhesin (Sfall) complex of an *Escherichia coli* O18:K1 meningitis isolate. *Infect. Immun.* **61**, 544-550.
79. Zingler, G., Blum, G., Falkenhagen, U., Orskov, I., Orskov, F., Hacker, J., Ott, M. 1993. Clonal differentiation of uropathogenic *E. coli* isolates of serotype O6:K5 by fimbrial antigen typing and DNA long-range mapping techniques. *Med. Microbiol. Immunol.* **182**, 13-24.
80. Kunin, C., Hua, T. H., Van Arsdale-White, L., Krishnan, C., Hacker, J. 1993. Isolation of a nicotinamide-requiring clone of *Escherichia coli* O18:K1:H7 from women with acute cystitis resembles strains found in neonatal meningitis. *Clin. Infect. Dis.* **16**, 412-416.
81. Morschhäuser, J., Vetter, V., Korhonen, T., Uhlin, B. E., Hacker, J. 1993. Regulation and binding properties of S fimbriae cloned from *E. coli* strains causing urinary tract infection and meningitis. *Zbl. Bakteriol.* **278**, 165-176.
82. Hacker, J., Ott, M., Wintermeyer, E., Ludwig, B., Fischer, G. 1993. Analysis of virulence factors of *Legionella pneumophila*. *Zbl. Bakteriol.* **278**, 348-358.
83. Hacker, J., Ott, M., Hof, H. 1993. Effects of low, subinhibitory concentrations of antibiotics on expression of a virulence gene cluster of pathogenic *E. coli* by using a wild-type gene fusion. *Int. J. Antimicrob. Agents* **2**, 263-270.
84. Hanisch, F. G., Hacker, J., Schroten, H. 1993. Specificity of S fimbriae on recombinant *E. coli*: preferential NeuAca (2-8) NeuAc. *Infect. Immun.* **61**, 2108-2115.
85. Prasadarao, N. V., Wass, C. A., Hacker, J., Jann, K., Kim, K. W. 1993. Adhesion of S-fimbriated *Escherichia coli* to brain glycolipids mediated by *sfaA* gene-encoded protein of S-fimbriae. *J. Biol. Chem.* **268**, 10356-10363.

86. Schroten, H., Plogmann, R., Hanisch, F. G., Hacker, J., Nobis-Bosch, R., Wahn, V. 1993. Inhibition of adhesion of S-fimbriated *E. coli* to buccal epithelial cells by human skim milk is predominantly mediated by mucins and depends on the period of lactation. *Acta Paediatr.* **82**, 6-11.
87. Ahrens, R., Ott, M., Ritter, A., Hoschützky, H., Bühler, T., Lottspeich, F., Boulnois, G. J., Jann, K., Hacker, J. 1993. Genetic analysis of the gene cluster encoding nonfimbrial adhesin I from an *Escherichia coli* uropathogen. *Infect. Immun.* **61**, 2505-2512.
88. Kreft, B., Bohnet, S., Carstensen, O., Hacker, J., Marre, R. 1993. Differential expression of interleukin-6, intracellular adhesion molecule 1 and major histocompatibility complex class II molecules in renal carcinoma cells stimulated with S fimbriae of uropathogenic *Escherichia coli*. *Infect. Immun.* **61**, 3060-3063.
89. Virkola, R., Parkkinen, J., Hacker, J., Korhonen, T. K. 1993. Sialyloligosaccharide chains of laminin as an extracellular matrix target for S fimbriae of *Escherichia coli*. *Infect. Immun.* **61**, 4480-4484.

## 1994

90. Morschhäuser, J., Vetter, V., Emödy, L., Hacker, J. 1994. Adhesion regulatory genes as parts of large, unstable DNA regions of pathogenic *Escherichia coli*: cross talk between different adhesin gene clusters. *Mol. Microbiol.* **11**, 555-566.
91. Blum, G., Ott, M., Lischewski, A., Ritter, A., Imrich, H., Tschäpe, H., Hacker, J. 1994. Excision of large DNA regions termed pathogenicity islands from tRNA-specific loci in the chromosome of an *Escherichia coli* wild-type pathogen. *Infect. Immun.* **62**, 606-614.
92. Wintermeyer, E., Flügel, M., Ott, M., Steinert, M., Rdest, U., Mann, K.-H., Hacker, J. 1994. Sequence determination and mutational analysis of the Ily locus of *Legionella pneumophila*. *Infect. Immun.* **62**, 1109-1117.
93. Teeyapant, R., Woerdenbag, H. J., Kreis, P., Hacker, J., Wray, V., Witte, L., Proksch, P. 1994. Antibiotic and cytotoxic activity of brominated compounds from the marine sponge *Verongia aerophoba*. *Zeitschrift für Naturforschung* **48c**, 939-945.
94. Hacker, J., Ott, M., Marre, R. 1994. Genetische Analysen zur Pathogenität und Fitness von Legionellen. *Klin. Lab.* **40**, 217-222.
95. Kern, W., Andriof, E., Oethinger, M., Kern, P., Hacker, J., Marre, R. 1994. Emergence of fluoroquinolone-resistant *Escherichia coli* at a cancer center. *Antimicrob. Agent Chemother.* **38**, 681-687.
96. Ludwig, B., Rahfeld, J., Schmidt, B., Mann, K., Wintermeyer, W., Fischer, G., Hacker, J. 1994. Characterization of Mip proteins of *Legionella pneumophila*. *FEMS Microbiol. Lett.* **118**, 23-30.
97. Rahfeld, J., Rücknagel, K. P., Schelbert, B., Ludwig, B., Hacker, J., Mann, K. H., Fischer, G. 1994. Confirmation of the existence of a third family among peptidyl-prolyl *cis/trans* isomerases: amino acid sequence and recombinant production of parvulin. *FEBS Lett.* **352**, 180-184.



98. Schmidt, B., Rahfeld, J., Schierhorn, A., Ludwig, B., Hacker, J., Fischer, G. 1994. A homodimer represents an active species of the peptidyl-prolyl *cis/trans* isomerase FKBP25mem from *Legionella pneumophila*. FEBS Lett. **352**, 185-190.
99. Steinert, M., Ott, M., Lück, P. C., Tannich, E., Hacker, J. 1994. Studies on the uptake and intracellular replication of *Legionella pneumophila* in protozoa and in macrophage-like cells. FEMS Microbiol. Ecol. **15**, 299-308.

## 1995

100. Blum, G., Falbo, V., Caprioli, A., Hacker, J. 1995. Gene clusters encoding the cytotoxic necrotizing factor 1, Prs-fimbriae and  $\alpha$ -hemolysin form the pathogenicity island II of the uropathogenic *Escherichia coli* strain J96. FEMS Microbiol. Lett. **126**, 189-196.
101. Helbig, J. H., Ludwig, B., Lück, P. C., Groh, A., Witzleb, W., Hacker, J. 1995. Monoclonal antibodies against Mip proteins of *Legionella* recognize genus and species specific epitopes. Clin. Diagn. Lab. Immunol. **2**, 160-165.
102. Lischewski, A., Ruhnke, M., Tennagen, I., Schönian, G., Morschhäuser, J., Hacker, J. 1995. Molecular epidemiology of *Candida* isolates from AIDS patients showing different fluconazole resistance profiles. J. Clin. Microbiol. **33**, 769-771.
103. Vetter, V., Hacker, J. 1995. Molecular genetics as a tool to study tip adhesins. Methods in Enzymol. **253**, 229-241.
104. Heuner, K., Ott, M., Lück, P. C., Bender, L., Mann, K. H., Marre, R., Hacker, J. 1995. Cloning, expression in *Escherichia coli* K-12 and nucleotide sequence of the Flagella subunit gene (*flaA*) of *Legionella pneumophila* serogroup 1. Infect. Immun. **63**, 2499-2507.
105. Neumeister, B., Susa, M., Nowak, B., Straube, E., Ruckdeschel, G., Hacker, J., Ruckdeschel, G., Marre, R. 1995. Enzyme immunoassay for detection of antibodies against isolated flagella of *Legionella pneumophila*. Eur. Jour. Clin. Microbiol. Infect. Dis. **14**, 764-767.
106. Bender-Beck, L., Mühlenberg, W., Lück, P. C., Ott, M., Horbach, I., Fehrenbach, F. J. Wewalka, G., Hacker, J. 1995. DNA-fingerprints von *Legionella pneumophila* Serogruppe 2-Stämmen als epidemiologische Marker. Immunität und Infektion **23**, 137-139.
107. Ritter, A., Blum, G., Emödy, L., Kerényi, M., Böck, A., Neuhierl, B., Rabsch, W., Scheutz, F., Hacker, J. 1995. tRNA genes and pathogenicity islands: influence on virulence and metabolic properties of uropathogenic *E. coli*. Mol. Microbiol. **17**, 109-121.
108. Steinert, M., Engelhard, H., Flügel, M., Wintermeyer, E., Hacker, J. 1995. The Lly-Protein does not influence intracellular survival in *Hartmannellae* but contributes to the ecological adaptation of *Legionella pneumophila*. Appl. Environment. Microbiol. **61**, 2428-2430.
109. Blum, G., Marre, R., Hacker, J. 1995. Properties of *Escherichia coli* strains of serotypes O6 infection. Infection **23**, 234-236.
110. Kreft, B., Plascek, M., Hacker, J., Schmidt, G., Wasenauer, G., Daho, M. R., Van der Wonde, F., Sack, K. 1995. S-fimbriae of uropathogenic *Escherichia coli* bind to primary human renal

proximal tubular epithelial cells but do not induce the expression of intracellular adhesion molecule-1. *Infect. Immun.* **63**, 3235-3238.

111. Wintermeyer, E., Ludwig, B., Steinert, M., Schmidt, B., Fischer, G., Hacker, J. 1995. Influence of site specifically altered Mip proteins on intracellular survival of *Legionella pneumophila* in eukaryotic cells. *Infect. Immun.* **63**, 4576-4583.

## 1996

112. Mühldorfer, I., Hacker, J., Tschäpe, H., Keusch, G. T., Acheson, D. W. K., Kane, A. V., Ritter, A., Ölschläger, T., Donohue-Rolfe, A. 1996. Regulation of the Shiga-like-II operon in *Escherichia coli*. *Infect. Immun.* **64**, 495-502.
113. Susa, M., Hacker, J., Marre, R. 1996. *De novo* synthesis of *Legionella pneumophila* antigens during intracellular growth in phagocytic cells. *Infect. Immun.*, **64**, 1679-1684.
114. Meier, C., Ölschläger, T., Merkert, H., Korhonen, T. K., Hacker, J. 1996. Ability of the newborn meningitis isolate *Escherichia coli* IHE 3034 (O18:K1:47) to isolate epithelial and endothelial cells. *Infect. Immun.* **64**, 2391-2399.
115. Blum, G., Mühldorfer, I., Kuhnert, P., Frey, J. Hacker, J. 1996. Comparative methods to investigate the presence of *Escherichia coli* K-12 strains in environmental and human stool samples. *FEMS Microbiol. Lett.* **143**, 77-82.
116. Mühldorfer, I., Blum, G., Donohue-Rolfe, A., Heier, H., Souladaki M., Tschäpe, H., Wallner, U., Hacker, J. 1996. Characterization of *Escherichia coli* in strains isolated from environmental water habitats and from stool samples of healthy volunteers. *Res. Microbiol.* **147**, 625-635.
117. Schmidt, B., Tradler, T., Rahfeld, J.-U., Ludwig, B., Mann, K., Rücknagel, K. P., Janowski, B., Schierhorn, A., Jain, B., Küllertz, G., Hacker, J., Fischer, G. 1996. A cyclophilin-like peptidyl-prolyl *cis/trans* isomerase from *Legionella pneumophila* - characterization, molecular cloning and overexpression. *Mol. Microbiol.* **21**, 1147-1160.
118. Susa, M., Kreft, B., Wasenauer, G., Ritter, A., Hacker, J., Marre, R. 1996. Influence of cloned tRNA genes from uropathogenic *Escherichia coli* strain on adherence to primary human renal tubular epithelial cells and nephropathogenicity in rats. *Infect. Immun.* **64**, 5390-5394.
119. Lischewski, A., Amann, R. I., Harmsen, D., Merkert, H., Morschhäuser, J., Hacker, J. 1996. Specific *in situ* detection of the pathogenic fungi *C. albicans* and *C. tropicalis* using an 18S rRNA-targeted, FITC-labeled oligonucleotide: probe development and applications. *Microbiology*, **142**, 2731-2740.
120. Jain, B., Brand, B. C., Lück, P. C., Dimroth, P., Hacker, J. 1996. An Oxaloacetate Decarboxylase Homolog Protein Influences the intracellular Survival of *Legionella pneumophila*. *FEMS Microbiol. Lett.* **145**, 273-279.
121. Mannhardt, W., Becker, A., Putzker, M., Bork, M., Zepp, F., Hacker, J., Schulte-Wissermann, H. 1996. Host defense within the urinary tract. I. Bacterial adhesion initiates an uroepithelial defense mechanism. *Pediatr. Nephrol.* **10**, 568-572.
122. Müller, A., Hacker, J., Brand, B. C. 1996. Evidence for apoptose of human macrophage-like HL cells by *Legionella pneumophila* infection. *Infect. Immun.* **64**, 4900-4906.

**1997**

123. Heuner, K., Hacker, J., Brand, B. C. 1997. The alternative sigma factor  $\sigma^{28}$  of *Legionella pneumophila* restores flagellation and motility to an *Escherichia coli fliA* mutant. J. Bacteriol., **179**, 17-23.
124. Kuhnert, P., Hacker, J., Mühldorfer, I., Burnes, A. P., Nicolet, J., Frey, J. 1997. A detection system for *Escherichia coli* specific virulence genes: Absence of virulence determinants in B and C strains. Appl. Envir. Microbiol. **63**, 703-709.
125. Ziebuhr, W., Heilmann, c., Götz, F., Meyer, P., Wilms, K., Straube, E., Hacker, J. 1997. Detection of the intercellular adhesion gene cluster (*ica*) and phase variation in *Staphylococcus epidermidis* blood culture strains and mucosal isolates. Infect. Immun. **65**, 890-896.
126. Blum-Oehler, G., Heesemann, J., Kranzfelder, D., Scheutz, F., Hacker, J. 1997. Abortion by a woman carrying a pathogenic *Escherichia coli* of serotype O12:K1:H7. Eur. J. Clin. Microbiol. Infect. Dis. **16**, 153-155.
127. Steinert, M., Emödy, L., Amann, R., Hacker, J. 1997. Resuscitation of viable but nonculturable *Legionella pneumophila* Philadelphia IR 32 by *Acanthamoeba castellanii*. Appl. Envir. Microbiol., **63**, 2047-2053.
128. Babai, R., Blum-Oehler, G., Hacker, J., Stein, B.E., Ron, E. Z. 1997. Virulence patterns from septicemic *Escherichia coli* O78 strains. FEMS Microbiol. Lett., **149**, 99-106.
129. Ohlsen, K., Koller, P., Hacker, J. 1997. Analysis of expression of the alpha-toxin gene (*hla*) of *Staphylococcus aureus* using a chromosomally encoded *hla-lacZ* gene fusion. Infect. Immun., **65**, 3606-3614.
130. Morschhäuser, J., Virkola, R., Korhonen, T., Hacker, J., 1997. Degradation of human subendothelial extra-cellular matrix by proteinase-secreting *Candida albicans*. FEMS Microbiol. Letters, **153**, 349-355.
131. Ritter, A., Gally, D.L., Olsen, P.B., Dobrindt, U., Friedrich, A., Klemm, P., Hacker J. 1997. The Pai-associated *leuX* specific tRNA<sub>S<sup>leu</sup></sub> affects type 1 fimbriation in pathogenic *Escherichia coli* by control of FimB recombinase expression. Mol. Microbiol. **25**, 871-882.
132. Lischewski, A., Kretschmar, M., Hof, H., Amann, R., Hacker, J., Morschhäuser, J., 1997. Detection and identification of *Candida*-species in experimentally infected tissue and human blood by fluorescent rRNA-specific *in situ* hybridization. J. Clin. Microbiol., **35**, 2943-2948.
133. Blum-Oehler, G., Hacker, J. Kuhnert, P., Frey, J. 1997. Spezifischer Nachweis von *Escherichia coli* K-12 Sicherheitsstämmen mittels PCR. Biospektrum **3 (6)**, 30.
134. Lischewski, A., Harmsen, D., Hacker, J., Morschhäuser, J. 1997. Standardized molecular typing of *Candida albicans* strains. Mycoses **40**, 369 - 372.

**1998**

135. Dobrindt, U., Cohen, P.S., Utley, M., Mühldorfer, I., Hacker, J. 1998. The *leuX*-encoded tRNA<sub>5<sup>Leu</sup></sub> but not the Pathogenicity Islands I and II influence the survival of the Uropathogenic *Escherichia coli* Strain 536 in CD-1 Mouse Bladder Mucus. FEMS Microbiol. Letters **162**, 135 – 141.
136. Grimm, D., Merkert, H., Ludwig, W., Schleifer, K. H., Hacker, J., Brand B.C. 1998. Specific Detection of *Legionella pneumophila*: Construction of a New 16S rRNA-Targeted Oligonucleotide Probe *Legionella pneumophila*. App. Environm. Microbiol. **64**, 2686 –2690.
137. Gunzer, F., Bohn, U., Fuchs, S., Mühldorfer, I., Hacker, J., Tzipori, S., Donohue- Rolfe, A.. 1998. Construction and characterization of an Isogenic *slt-ii* deletion mutant of enterohemorrhagic *Escherichia coli*. Infect. Immun. **66**, 2337-2341.
138. Hägele, S., Hacker, J., Brand, B.C. 1998. *Legionella pneumophila* kills human phagocytes but not protozoan host cells by inducing apoptotic cell death. FEMS Microbiol. Lett. **169**, 51-58.
139. Morschhäuser, J., S. Michel, J. Hacker. 1998. Expression of a chromosomally integrated, single-copy GFP gene in *Candida albicans* and its use as a reporter of gene regulation. Mol. Gen. Genet., **257**, 412 - 420.
140. Ohlsen, K., Ziebuhr, W., Koller, K. P., Hell, W., Wichelhaus, T.A., Hacker, J. 1998. Effects of subinhibitory concentrations of antibodies on alpha-toxin (*hla*) gene expression of methicillin-sensitive and methicillin-resistant *Staphylococcus aureus* isolates. Antimicrob. Agents Chemother., **42**, 2817-2823.
141. Schroten, H., Stapper, C., Plogmann, R., Köhler, H., Hacker, J., Hanisch, F.-G. 1998. Fab-independent anti-adhesion effects of secretory immunoglobulin on S-fimbriated *Escherichia coli* are mediated by sialyloligosaccharides. Infect. Immun. **66**, 3971 - 3973.
142. Steinert, M., Ockert, G., Lück, C., Hacker, J. 1998. Regrowth of *Legionella pneumophila* in a heat-disinfected plumbing system. 1998. Zbl. Bakt., **288**, 321-342.
143. Westerlund-Wikström, B., Tanskanen, A., Virkola, R., Hacker, J., Lindberg, A., Shurmik, H., Korhonen, T.K. 1998. Functional expression of adhesive peptides as fusions to *Escherichia coli* flagellin. Protein Engineering **10**, 1319 – 1326.

## **1999**

144. Schwertmann, A., Schroten, H., Hacker, J., Kunz, C. 1999. S-Fimbriae from *Escherichia coli* bind to soluble glycoproteins from human milk. Jour. Pedr. Gastroenterol. Nutrit., **28**, 257-263.
145. Friedrich, A., Merkert, H., Fendert, T., Hacker, J., Proksch, P., Hentschel, U. 1999. Microbial diversity in the marine sponge *Aplysina cavernicola* analyzed by fluorescence *in situ* hybridization (FISH). Marine Biol., **134**, 461-470.
146. Fuchs, S., Mühldorfer, I., Donohue-Rolfe, A., Kerényi, M., Emödy, L., Alexiev, R., Nenkov, P., Hacker, J. 1999. Influence of RecA on *in vivo* virulence and Shiga toxin 2 production in *Escherichia coli* pathogens. Microb. Pathog., **27**, 13-23.

147. Gertz, S., Engelmann, S., Schmid, R., Ohlsen, K., Hacker, J., Hecker, M. 1999. Regulation of  $\sigma^B$ -dependent transcription of *sigB* and *asp23* under stress conditions in two different *Staphylococcus aureus* strains. *Mol. Gen. Genet.* **261**, 558-566.
148. Heuner, K., Brand, B.C., Hacker, J. 1999. The expression of the flagellum of *Legionella pneumophila* is modulated by different environmental factors. *FEMS Microbiol. Lett.*, **175**: 69-77.
149. Krimmer, V., Merkert, H., von Eiff, C., Frosch, M., Eulert, J., Löhr, J.F., Hacker, J., Ziebuhr, W. (1999) Detection of *Staphylococcus aureus* and *Staphylococcus epidermidis* in clinical samples by 16S rRNA-directed in situ hybridization. *J. Clin. Microbiol.*, **37**, 2667-2673.
150. Pouttu, R., Puustinen, T., Virkola, R., Hacker, J., Klemm, P., Korhonen, T. 1999. Amino-acid residue Ala-62 in the FimH fimbrial adhesin is critical for the adhesiveness of meningitis-associated *Escherichia coli* to collagens. *Molec. Microbiol.*, **31**, 1747-1757.
151. Sarén, A., Virkola, R., Hacker, J., Korhonen, T. 1999. The cellular form of human fibronectin as an adhesion target for the S-fimbriae of meningitis-associated *Escherichia coli*. *Infect. Immun.* **67**, 2671-2676.
152. Staib, P., Kretschmar, M., Nichterlein, T., Köhler, G., Michel, S., Hof, H., Hacker, J., Morschhäuser, J. 1999. Host-induced, stage-specific virulence gene activation in *Candida albicans* during infection. *Molec. Microbiol.*, **32**, 533-546.
153. Ziebuhr, W., Krimmer, V., Rachid, S., Löbner, I., Götz, F., Hacker, J. 1999. A novel mechanism of phase variation of virulence in *Staphylococcus epidermidis*: evidence for control of the polysaccharide intercellular adhesin synthesis by alternating insertion and excision of the insertion sequence element IS256. *Mol. Microbiol.* **32**, 345-356.
154. Lischewski, A., Harmsen, D., Helms, J., Baier, G., Gunzer, U., Klinker, H., Kochsiek, K., Wilhelm, M., Bröcker, E.-B., Schwinn, A., Wilms, K., Hacker, J. 1999. Molecular epidemiology of *C. albicans* isolates from AIDS and cancer patients using CARE-2 DNA-fingerprinting in combination with a novel standardization system. *Mycoses*, **42**, 371-383.
155. Karch, H. Zhang, D., Zhang, S, Schubert, S., Hacker J. 1999. A genomic island, HPI, is present in certain non-O157 enterohemorrhagic *Escherichia coli* clonal lineages, *Infect. Immun.*, **67**, 5994-6001.

## 2000

156. Babei, R., Stern, B.E., Hacker, J., Ron, Z. 2000. A new fimbrial gene cluster of the S-fimbrial adhesion family. *Infect. Immun.*, **68**, 5901-5907.
157. Fettes, P., Susa, M., Hacker, J., Marre, R. 2000. Characterization of the *Legionella pneumophila* gene *ligA*. *Int. J. Med. Microbiol.*, **290**, 239-250.
158. Gertz, S., Engelmann, S., Schmid, R., Ziebandt, A.K., Tischer K., Scharf, C., Hacker, J., Hecker, J. 2000. Characterization of the  $\sigma^B$ -regulon in *Staphylococcus aureus*. *J. Bacteriol.*, **182**, 6983-6991.

159. Hägele, S., Köhler, R., Merkert, H., Schleicher, M., Hacker, J., Steinert, M. 2000. *Dictyostelium discoideum*: A new host model system for intracellular pathogens of the genus *Legionella*, *Cell. Microbiol.*, **2**, 165-171.
160. Heuner, K., Dietrich, C., Göbel, U.B. Hacker, J. 2000. Cloning and characterization of a *Legionella pneumophila* specific gene encoding a member of the LysR family of transcriptional regulators. *Mol. Gen. Genet.*, **264**, 204-211.
161. Khan, A.S., Kniep, B., Ölschläger, A.T., Van Die, I., Korhonen, T., Hacker, J. 2000. The receptor structure for F1C fimbriae of uropathogenic *Escherichia coli*. *Infect. Immun.*, **68**, 3541-3547.
162. Khan, A.S., Mühldorfer, I., Demuth, V., Wallner, U., Korhonen, T.K., Hacker, J. 2000. Functional analysis of the minor subunits of S-fimbrial adhesins (*sfaI*) in pathogenic *Escherichia coli*. *Molec. Gen. Genet.*, **263**, 96 - 105.
163. Köhler, R., Bubert, A., Goebel, W., Steinert, M. Hacker, J., Bubert, B. 2000. Expression and use of green fluorescent protein as a reporter system in *Legionella pneumophila*. *Mol. Gen. Genet.* **262**, 1060-1069.
164. Lorenz, U., Ohlsen, K., Karch, H., Hecker, M., Thiede, A., Hacker, J. 2000. Antibody response in individuals infected with methicillin resistant *Staphylococcus aureus*. *FEMS Immunol. Med. Microbiol.* **29**, 145-153.
165. Piechaczek, K., Dobrindt, U., Schierhorn, A., Fischer, G., Hecker, M., Hacker, J. 2000. Influence of pathogenicity islands and the minor *leuX*-encoded tRNA<sup>Leu</sup> on the proteome pattern of the uropathogenic *Escherichia coli* strain 536. *Int. J. Med. Microbiol.* **290**, 75-84.
166. Rachid, S., Ohlsen, K., Wallner, U., Hacker, J., Hecker, M., Ziebuhr, W. The alternative transcription factor SigB is involved in the regulation of biofilm expression in *Staphylococcus aureus*. *J. Bacteriol.*, **182**, 6824-6826.
167. Rachid, S., Ohlsen, K., Witte, W., Hacker, J., Ziebuhr, W. Effect of subinhibitory antibiotic concentrations on the polysaccharide intercellular adhesin (PIA) expression in biofilm forming *Staphylococcus epidermidis*. *Antimicrob. Agents and Chemother.*, **44**, 3357-3363.
168. Riedl, S., Ohlsen, K., Werner, G., Witte, W., Hacker, J. 2000. Impact of the Flavophospholipol (FPL) and Vancomycin on the conjugational transfer of Vancomycin resistance plasmids. *Antimicrob. Agents Chemother.*, **44**, 3189-3192.

## 2001

169. Dietrich, C., Heuner, K., Brand, B., Hacker, J., Steinert, M. 2001. The Flagellum of *Legionella pneumophila* positively affects the early phase of infection of eukaryotic host cells. *Infect. Immun.*, **69**, 2116-2112.
170. Brunder, W., Khan, A.S., Hacker, J., Karch, H. 2001. A novel fimbrial gene cluster encoded by the large plasmid of Sorbitol-fermenting enterohämorrhagic *Escherichia coli*. O157:H. *Infect. Immun.*, **69**, 4447-4457.
171. Dobrindt, U., Blum-Oehler, G., Hartsch, T., Gottschalk, G., Ron, E., Fünfstück, R., T., Hacker, J. 2001. The S-fimbriae-encoding determinant *sfa*<sub>I</sub> is located on pathogenicity island III<sub>536</sub> of the uropathogenic *Escherichia coli* strain 536. *Infect Immun.*, **69**, 4248-4256.

172. Dobrindt U., Hacker, J. 2001. Regulation of the tRNA<sub>5</sub><sup>Leu</sup>-encoding gene *leuX* that is associated with a pathogenicity island in the uropathogenic *Escherichia coli* strain 536. *Mol. Gen. Genomics.*, **265**, 895-904.
173. Friedrich, A.B., Fischer, I., Proksch, P., Hacker, J., Hentschel, U. 2001. Temporal variation of the microbial community associated with the mediterranean sponge *Aplysina aerophoba*. *FEMS Microbiol. Ecol.* **38**, 105-113.
174. Fünfstück, R., Franke, S., Hellberg, M., Ott, U., Knöfel, B., Straube, E., Sommer, M., Hacker, J. 2001. Secretion of cytokines by uroepithelial cells stimulated by *Escherichia coli* and *Citrobacter spp.* *Int. J. Antimicrob. Agents* **17**, 253-258.
175. Gophna U, Barlev M, Seijffers R, Oelschläger TA, Hacker J, Ron EZ. 2001. Curli fibers mediate internalization of *Escherichia coli* by eukaryotic cells. *Infect Immun.* **69**, 2659-2665.
176. Gophna, U., Öschlänger, T.A., Hacker, J. Ron, E. 2001. Yersinia HPI in septicemic *E. coli* strains isolated from diverse hosts. *FEMS Microbiol. Lett.*, **196**, 57-60.
177. Grimm, D., Ludwig, W., Brand, B.C, Michel, R., Schleifer, K.H., Hacker, J., Steinert, M. 2001. Development of 18 S rRNA-targeted oligonucleotide probes for specific detection of *Hartmannella* and *Naegleria* in *Legionella*-positive environmental samples. *System. Appl. Microbiol.*, **24**, 76-82.
178. Hentschel, U., Schmid, M., Wagner, M., Fieseler, L., Gernert, C., Hacker, J. 2001. Isolation and phylogenetic analysis of bacteria with antimicrobial activities from the mediterranean sponge *Aplysina aerophoba*, *FEMS Microbiol. Ecol.*, **38**, 1-8.
179. Janke, B., Dobrindt, U., Hacker, J., Blum-Oehler, G. 2001. A subtractive hybridization analysis of genomic differences between the uropathogenic *E. coli* strain 536 and the *E. coli* K-12 strain MG1655, *FEMS Microbiol. Lett.*, **199**, 61-66.
180. Middendorf, B., Blum-Oehler, G., Dobrindt, U., Mühldorfer, I., Salge, S., Hacker, J. 2001. The Pathogenicity island of the uropathogenic *Escherichia coli* strain 536: Island probing of PAI II<sub>536</sub>. *J. Infect. Dis.*, **183**, 17-20.
181. Mueller, F. M., O. Kurzai, J. Hacker, M. Frosch, and F. Muehlschlegel. 2001. Effect of the growth medium on the in vitro antifungal activity of micafungin (FK-463) against clinical isolates of *Candida dubliniensis*. *J Antimicrob Chemother.*, **48**, 713-715.
182. Nagy, G., Dobrindt, U., Emödy, L., Karch, H., Hacker, J., 2001. Expression of hemin receptor molecule ChuA is influenced by RfaH in uropathogenic *Escherichia coli* strain 536. *Infect. Immun.*, **69**, 1924-1928.
183. Riboldi-Tunncliffe, A., König, B., Jenssen, S., Rahfeld, J., Hacker, J., Fischer, G., Hilgenfeld, R., 2001. Crystal structure of the macrophage infectivity potentiator (Mip) protein, a major virulence factor of *Legionella pneumophila*. *Nature Struct. Biol.*, **8**, 779-783.
184. Ziebuhr, W., Loessner, I., Krimmer, V., Hacker, J. 2001. Methods to analyze presence and phenotypic variation in biofilm-forming Staphylococci. *Meth. Enzymol.*, **336**, 195-205.

185. Schmidt, H., Zhang, W.L., Hemrich, U., Jelacic, F., Brunder, W., Tarr, P.J., Dobrindt, U., Hacker, J., Karch, H. 2001. Identification and characterization of a novel genomic island integrated at *selC* in LEE-negative, Shiga-toxin producing *Escherichia coli*. *Infect. Immun.*, **69**, 6863-6873.

## 2002

186. Cho, S. H., K. Naber, J. Hacker, and W. Ziebuhr. 2002. Detection of the *icaADBC* gene cluster and biofilm formation in *Staphylococcus epidermidis* isolates from catheter-related urinary tract infections. *Int J Antimicrob Agents*, **19**, 570-575.
187. Dobrindt, U., Blum-Oehler, G., Nagy, G., Schneider, G., Johann, A., Gottschalk, G., Hacker, J. 2002. Genetic Structure and Distribution of Four Pathogenicity Islands (PAI I(536) to PAI IV(536)) of Uropathogenic *Escherichia coli* Strain 536. *Infect Immun.*, **70**, 6365-6372.
188. Dobrindt, U., Emödy, L., Gentschev, I., Goebel, W., Hacker, J. 2002. Efficient expression of the alpha-haemolysin determinant requires the *leuX* encoded tRNA<sub>5<sup>Leu</sup> in the uropathogenic *Escherichia coli* strain 536. *Mol. Gen. Genom.*, **267**, 370-378.</sub>
189. Heuner, K., Dietrich, C., Skriwan, C., Steinert, M., Hacker, J. 2002. Influence of the alternative  $\sigma^{28}$  factor on virulence and flagellum expression of *L. pneumophila*. *Infect. Immun.*, **70**, 1604-1612.
190. Gophna, U., Oelschlaeger, T. A., Hacker, J., Ron, E. Z. 2002. Role of fibronectin in curli-mediated internalization. *FEMS Microbiol. Lett.*, **212**, 55-58.
191. Grozdanov, L., U. Zahringer, U., G. Blum-Oehler, G., L. Brade, L., A. Henne, A., Y. A. Knirel, Y. A., Schombel, U., Schulze, J., Sonnenborn, U., Gottschalk, G., Hacker, J., Rietschel, E. T., Dobrindt, U. 2002. A Single Nucleotide Exchange in the *wzy* Gene Is Responsible for the Semirough O6 Lipopolysaccharide Phenotype and Serum Sensitivity of *Escherichia coli* Strain Nissle 1917. *J. Bacteriol.*, **21**, 5912-5925.
192. Hentschel, U., J. Hopke, M. Horn, A. B. Friedrich, M. Wagner, J. Hacker, and B. S. Moore. 2002. Molecular evidence for a uniform microbial community in sponges from different oceans. *Appl Environ Microbiol.*, **68**, 4431-4440.
193. Loessner, I., K. Dietrich, D. Dittrich, J. Hacker, and W. Ziebuhr. 2002. Transposase-dependent formation of circular IS256 derivatives in *Staphylococcus epidermidis* and *Staphylococcus aureus*. *J Bacteriol.*, **184**, 4709-4714.
194. Nagy, G., U. Dobrindt, G. Schneider, A. S. Khan, J. Hacker, and L. Emody. 2002. Loss of regulatory protein RfaH attenuates virulence of uropathogenic *Escherichia coli*. *Infect Immun.*, **70**, 4406-4413.
195. Skriwan, C., Fajardo, M., Hägele, S., Horn, M., Wagner, M., Michel, R., Krohne, G., Schleicher, M., Hacker, J., Steinert, M. 2002. Various bacterial pathogens and symbionts infect the amoeba *Dictyostelium discoideum*. *Int. J. Med. Microbiol.*, **291**, 615-625.
196. Theiss, S., Kretschmar, M., Nichterlein, T., Hof, H., Agabian, N., Hacker, J., Köhler, G. 2002. Functional analysis of a vacuolar ABC transporter in wild-type *Candida albicans* reveals its involvement in virulence. *Mol. Microbiol.*, **43**, 571-584.



**2003**

197. Autar R, Khan AS, Schad M, Hacker J, Liskamp RM, Pieters RJ. 2003. Adhesion inhibition of F1C-fimbriated *Escherichia coli* and *Pseudomonas aeruginosa* PAK and PAO by multivalent carbohydrate ligands. *Chembiochem.*, **4**, 1317-1325.
198. Balsalobre, C., Morschhauser, J., Jass, J., Hacker, J., Uhlin, B.E. 2003. Transcriptional analysis of the *sfa* determinant revealing mmRNA processing events in the biogenesis of S fimbriae in pathogenic *Escherichia coli*. *J Bacteriol.*, **185**, 620-629.
199. Blum-Oehler, G., Oswald, S., Eiteljorgem K., Sonnenborn, U., Schulze, J., Kruis, W., Hacker, J. 2003. Development of strain-specific PCR reactions for the detection of the probiotic *Escherichia coli* strain Nissle 1917 in fecal samples. *Res Microbiol.*, **154**, 59-66.
200. Dobrindt, U., Agerer, F., Michaelis, K., Janka, A., Buchrieser, C., Samuelson, M., Svanborg, C., Gottschalk, G., Karch, H., Hacker, J. 2003. Analysis of genome plasticity in pathogenic and commensal *Escherichia coli* isolates by use of DNA arrays. *J Bacteriol.*, **185**, 1831-40.
201. Fekete, P.Z., Schneider, G., Olasz, F., Blum-Oehler, G., Hacker, J.H., Nagy, B. 2003. Detection of a plasmid-encoded pathogenicity island in F18+ enterotoxigenic and verotoxigenic *Escherichia coli* from weaned pigs. *Int. J. Med. Microbiol.*, **293**, 287-298.
202. Gophna, U., Parket, A., Hacker, J., Ron, E.Z. 2003. A novel ColV plasmid encoding type IV pili. *Microbiology*, **149**, 177-184.
203. Helbig, J.H., König, B., Knospe, H., Bubert, B., Yu, C., Lück, C.P., Riboldi-Tunncliffe, A., Hilgenfeld, R., Jacobs, E., Hacker, J., Fischer, G. 2003. The PPIase active site of *Legionella pneumophila* Mip protein is involved in the infection of eukaryotic host cells. *Biol Chem.*, **384**, 125-37.
204. Köhler, R., Fanghanel, J., König, B., Luneberg, E., Frosch, M., Rahfeld, J.U., Hilgenfeld, R., Fischer, G., Hacker, J., Steinert, M. 2003. Biochemical and functional analyses of the Mip protein: influence of the N-terminal half and of peptidylprolyl isomerase activity on the virulence of *Legionella pneumophila*. *Infect Immun.*, **71**, 4389-4397.
205. Oelschlaeger, T.A., Zhang, D., Schubert, S., Carniel, E., Rabsch, W., Karch, H., Hacker, J. 2003. The high-pathogenicity island is absent in human pathogens of *Salmonella enterica* subspecies I but present in isolates of subspecies III and VI. *J Bacteriol.*, **185**, 1107-1111.
206. Ohlsen, K., Ternes, T., Werner, G., Wallner, U., Löffler, D., Ziebuhr, W., Witte, W., Hacker, J. 2003. Impact of antibiotics on conjugational resistance gene transfer in *Staphylococcus aureus* in sewage. *Environ. Microbiol.*, **5**, 711-716.
207. Pabel, C. T., Vater, J., Wilde, C., Franke, P., Hofmeister, J., Adler, B., Bringmann, G., Hacker, J., Hentschel, U. 2003. Antimicrobial activities and matrix- assisted laser desorption/ ionization mass spectrometry of Bacillus isolates from the marine sponge *Aplysina aerophoba*. *Marine Biotechnol.*, **5**, 424-434.
208. Reinhard, T., Schilgen, G., Steinert, M., Hacker, J., Sundmacher, R. 2003. Nummular infiltrates in *Acanthamoeba keratitis*. *Acta Ophthalmol Scand.*, **81**, 541-543.

**2004**

209. Altenhoefer A, Oswald S, Sonnenborn U, Enders C, Schulze J, Hacker J, Oelschlaeger TA. 2004. The probiotic *Escherichia coli* strain Nissle 1917 interferes with invasion of human intestinal epithelial cells by different enteroinvasive bacterial pathogens. *FEMS Immunol. Med. Microbiol.*, **40**, 223-229.
210. Fajardo, M., Schleicher, M. Noegel, A., Bozzaro, S., Killinger, S., Heuner, K., Hacker, J., Steinert M. 2004. Calnexin, calreticulin and cytoskeleton associated proteins modulate uptake and growth of *Legionella pneumophila* in *Dictyostelium discoideum*, *Microbiology*, **150**, 2825 – 2835.
211. Grozdanov, L., Raasch, C., Schulze, J., Sonnenborn, U., Gottschalk, G., Hacker, J., Dobrindt, U. 2004. Analysis of the genome structure of probiotic *Escherichia coli* strain Nissle 1917. *J. Bacteriol.*, **186**, 5432-5441.
212. Hess, P., Altenhöfer, A., Khan, S., Daryab, N., Kim, S.K., Hacker, J., Oelschlaeger, T. A. 2004. A *Salmonella fim*-homologue in *Citrobacter freundii* mediates invasion in vitro and crossing of the blood brain barrier in the rat pub model. *Infect. Immun.*, **72**, 5298-5307.
213. Lesic, B., Bach, S., Ghigo, J.-M., Dobrindt, U., Hacker, J., Carniel, E. 2004. Excision of the High-Pathogenicity Island of *Yersinia pseudotuberculosis* is mediated both by its cognate integrase and YalpA, a new recombination directionality factor. *Mol. Microbiol.*, **52**, 1337-1348.
214. Middendorf, B., Hochhut, B., Leipold, K., Dobrindt, U., Blum-Oehler, G., Hacker, J. 2004. Instability of Pathogenicity Islands in Uropathogenic *Escherichia coli* 536. *J. Bacteriol.*, **186**, 3086-3096.
215. Nagy, G., Dobrindt, U., Hacker, J., Emödy, L. 2004. Oral immunization with *rfaH* mutant elicits protection against salmonellosis in mice. *Infect. Immun.*, **72**, 4297-4301.
216. Schneider, G., Dobrindt, U., Brüggemann, H., Nagy, G., Janke, B., Blum-Oehler, G., Buchrieser, C., Gottschalk, G., Emödy, L., Hacker, J. 2004. The pathogenicity island-associated K15 capsule determinant exhibits a novel genetic structure and correlates with virulence in uropathogenic *Escherichia coli* strain 536. *Infect. Immun.*, **72**, 5993 – 6001.
217. Ziebandt, A. K., Becher, D., Ohlsen, K., Hacker, J., Hecker, M., Engelmann, S. 2004. The influence of *agr* and sigma (B) in growth phase dependent regulation virulence factors in *Staphylococcus aureus*, *Proteomics*, **4**, 3034 - 3047.

**2005**

218. Hejnova, J., Dobrindt, U., Nemcova, R., Rusniok, C., Bomba, A., Franguel, L., Hacker, J., Glaser, P., Sebo, P., Buchrieser, C. 2005. Characterization of the flexible genome complement of the commensal *Escherichia coli* strain A0 34/86 (O83 : K24 : H31). *Microbiology* **151**, 385-398.

219. Horstmann, M., Kamphausen, T., Schweimer, K., Steinert, M., Hacker, J., Haase, A., Rosch, P., Schweimer, G., Faber, C. 2005. N backbone and sidechain resonance assignment of Mip (77-213) the PPIase domain of the *Legionella pneumophila* Mip protein. *J Biomol NMR*. **1**, 77-8.
220. Nagy, G., Dobrindt, U., Grozdanov, L., Hacker, J., Emödy, L. 2005. Transcriptional regulation through RfaH contributes to intestinal colonization by *Escherichia coli*. *FEMS Microbiol. Lett.* **244**, 173-180.
221. Streker K., Freiberg, C., Labischinski, H., Hacker, J., Ohlsen K. 2005. *Staphylococcus aureus* NfrA (SA0367) is a flavin mononucleotide-dependent NADPH oxidase involved in oxidative stress response. *J Bacteriol.* **187**, 2249-2256.

## 2006

222. Beloin, C., Michaelis, K., Lindner, K., Landani, P., Hacker, J., Ghigo, J.M., Dobrindt, U. 2006. The transcriptional antiterminator RfaH represses biofilm formation in *Escherichia coli*. *J. Bacteriol.*, **188**, 1316 – 1331.
223. Batzilla, C. F., Rachid, S., Engelmann, S. Hecker, M., Hacker, J., Ziebuhr, W. 2006. Impact of the Accessory Gene Regulatory System (Agr) on Extracellular Proteins, codY Expression and Amino Acid Metabolism in *Staphylococcus epidermidis*. *Proteomics*, **6**, 3602-3613.
224. Kouokam, J. C., Nyunt Wai, S., Dobrindt, U., Hacker, J., Uhlin, B. E. 2006. Active cytotoxic necrotizing factor 1 associated with outer membrane vesicles from uropathogenic *E. coli*. *Infect. Immun.*, **74**, 2022-2030.
225. Nagy, G., Altenhöfer, A., Knapp, O., Maier, E., Dobrindt, U., Blum-Oehler, G., Benz, R., Emödy, L., Hacker, J. 2006. Both alpha-haemolysin determinants contribute to full virulence of uropathogenic *Escherichia coli* strain 536. *Microbes Infect.*, **8**, 2006-2012.
226. Müller, C. M., Dobrindt, U., Nagy, G., Emödy, L., Uhlin, B.E., Hacker, J. 2006. Role of Histone-like Proteins H-NS and StpA in Expression of Virulence Determinants of uropathogenic *Escherichia coli*. *J. Bacteriol.*, **188**, 5428-5438.
227. Hochhut, B., Wilde, C., Balling, G., Middendorf, B., Dobrindt, U., Brzuszkiewicz, E., Gottschalk, G., Carniel, E., Hacker, J. (2006) Role of pathogenicity island-associated integrases in the genome plasticity of uropathogenic *Escherichia coli* strain 536. *Mol. Microbiol.*, **61**, 584-595.
228. Michel, A., Agerer, F., Hauck, C.F., Herrmann, M., Ullrich, J., Hacker, J., Ohlsen, K. 2006. Global regulatory impact of ClpP protease of *Staphylococcus aureus* on regulons involved in virulence, oxidative stress response, autolysis, and DNA repair. *J. Bacteriol.*, **188**, 5783-5796.
229. Horstmann, M., Ehses, P., Schweimer, K., Steinert, M., Kamphausen, T., Fischer, G., Hacker, J., Rosch, P., Faber, C. 2006. Domain Motions of the Mip Protein from *Legionella pneumophila*. *Biochemistry*. **45**, 12303-12311.
230. Nagy, G., Danino, V., Dobrindt, U., Pallen, M., Chaudhuri, R., Emödy, L., Hinton, J.C., Hacker, J. 2006. Down-regulation of key virulence factors makes the *Salmonella enterica* serovar *Typhimurium rfaH* mutant a promising live-attenuated vaccine candidate. *Infect Immun.* **74**, 5914-25.

231. Theiss, S., Ishdorj, G., Brenot, A., Kretschmar, M., Lan, C.Y., Nichterlein, T., Hacker, J., Nigam, S., Agabian, N., Kohler, G.A. 2006. Inactivation of the phospholipase B gene PLB5 in wild-type *Candida albicans* reduces cell-associated phospholipase A(2) activity and attenuates virulence. *Int J Med Microbiol.* **296**, 405-420.
232. Nougayrède, J.-P., Homburg, S., Taieb, F., Boury, M., Brzuszkiewicz, E., Gottschalk, G., Buchrieser, C., Hacker, J., Dobrindt, U., Oswald, E. 2006. *Escherichia coli* induces DNA double strand breaks in eukaryotic cells. *Science*, **313**, 848-51.
233. Brzuszkiewicz, E., Brüggemann, H., Liesegang, H., Emmerth, M., Ölschläger, T., Nagy, G., Albermann, K., Wagner, C., Buchrieser, C., Emödy, L., Gottschalk, G., Hacker, J., Dobrindt, U. 2006. Comparative genomic analysis of extraintestinal pathogenic *Escherichia coli* strains reveals how to become an uropathogen. *Proc. Natl. Acad. Sci. USA* **103**, 12879-84.

## 2007

234. Wagner, C., Khan, A.S., Kamphausen, T., Schmausser, B., Lorenz, U., Fischer, G., Hacker, J., Steinert, M. 2007. Collagen binding protein Mip enables *Legionella pneumophila* to transmigrate through a barrier of NCI-H292 lung epithelial cells and extracellular matrix. *Cell. Microbiol.*, **9**, 450–462.
235. Germon, P., Roche, D., Melo, S., Mignon-Grasteau, S., Dobrindt, U., Hacker, J., Schouler, C., Moulin-Schouleur, M. 2007. tDNA locus polymorphism and ecto-chromosomal DNA insertion hot-spots are related to the phylogenetic group of *Escherichia coli* strains. *Microbiology.* **153**, 826-37.
236. Salminen, A., Loimaranta, V., Joosten, J.A., Khan, A.S., Hacker, J., Pieters, R.J., Finne, J. 2007. Inhibition of P-fimbriated *Escherichia coli* adhesion by multivalent galabiose derivatives studied by a live-bacteria application of surface plasmon resonance. *J Antimicrob Chemother.* **60**, 495-501.
237. Homburg, S., Oswald, E., Hacker, J., Dobrindt, U. 2007. Expression analysis of the colibactin gene cluster coding for a novel polyketide in *Escherichia coli*. *FEMS Microbiol Lett.* **275**, 255-62.
238. Glöckner, G., Albert-Weissenberger, C., Weinmann, E., Jacobi, S., Schunder, E., Steinert, M., Hacker, J., Heuner, K. 2007. Identification and characterization of a new conjugation/type IVA secretion system (trb/tra) of *Legionella pneumophila* Corby localized on two mobile genomic islands. *Int J Med Microbiol.* **298**, 411-28

## 2008

239. Lorenz, U., Hüttinger, C., Schäfer, T., Ziebuhr, W., Thiede, A., Hacker, J., Engelmann, S., Hecker, M., and Ohlsen, K. 2008. The alternative sigma factor sigma B of *Staphylococcus aureus* modulates virulence in experimental central venous catheter-related infections. *Microbes and Infection* **10**, 217-23

240. Zdziarski, J., Svanborg, C., Wullt, B., Hacker, J., Dobrindt, U. 2008. Molecular basis of commensalism in the urinary tract: low virulence or virulence attenuation? *Infect. Immun.* **76**, 695 – 703.
241. Wilde, C., Mazel, D., Hochhut, B., Middendorf, B., Carniel, E., Dobrindt, U., Hacker, J. 2008. Delineation of the recombination sites necessary for integration of pathogenicity islands II and III into the *Escherichia coli* 536 chromosome. *Mol. Microbiol.* **68**, 139–151.
242. Lindberg, S., Xia, Y., Sondén, B., Göransson, M., Hacker, J., Uhlin, B.E. 2008. Regulatory interactions among adhesin gene systems of uropathogenic *Escherichia coli*. *Infect. Immun.* **76**, 771 – 780.
243. Kim, J.H., Kim, C.H., Hacker, J., Ziebuhr, W., Lee, B.K. and Cho, S.H. 2008. Molecular characterization of regulatory genes associated with biofilm variation in a *Staphylococcus aureus* strain. *J. Microbiol. Biotechnol.* **18**: 28-34.
244. Streker, K., Freiberg, C., Brötz-Oesterhelt, H., Donat, S., Hacker, J., Labischinski, H., and Ohlsen, K. 2008. In vitro and in vivo characterization of novel antibiotics targets from *Staphylococcus aureus*. *Antimicrob Agents Chemother.* **52**, 4470-4474.
245. Barl, T., Dobrindt, U., Yu, X., Katcoff, D.J., Sompolinsky, D., Bonacorsi, S., Hacker, J., Bachmann, T.T. 2008. Genotyping DNA chip for the simultaneous assessment of antibiotic resistance and pathogenic potential of extraintestinal pathogenic *Escherichia coli*. *Int J Antimicrob Agents.* **32**, 272-277.
246. Nagy, G., Palkovics, T., Otto, A., Kusch, H., Kocsis, B., Dobrindt, U., Engelmann, S., Hecker, M., Emödy, L., Pál, T., Hacker, J. 2008. "Gently Rough": The Vaccine Potential of a *Salmonella enterica* Regulatory Lipopolysaccharide Mutant. *J Infect Dis.* **198**, 1699-1706.

## 2009

247. Tóth, I., Nougayrède, J.P., Dobrindt, U., Ledger, T.N., Boury, M., Morabito, S., Fujiwara, T., Sugai, M., Hacker, J., Oswald, E. 2009. Type I and type IV cytolethal distending toxin genes are framed with lambdoid prophage genes in extraintestinal pathogenic *Escherichia coli*. *Infect Immun.* **77**, 492-501.
248. Sjöström, A.E., Balsalobre, C., Emödy, L., Westerlund-Wikström, B., Hacker, J., Uhlin, B.E. 2009. The SfaXII protein from newborn meningitis *E. coli* is involved in regulation of motility and type 1 fimbriae expression. *Microb Pathog.* **46**, 243-252.
249. Putze, J., Hennequin, C., Nougayrède, J.P., Zhang, W., Homburg, S., Karch, H., Bringer, M.A., Fayolle, C., Carniel, E., Rabsch, W., Oelschlaeger, R.A., Oswald, E., Forestier, Ch., Hacker, J., Dobrindt, U. 2009. Genetic structure and distribution of the colibactin genomic island among *Enterobacteriaceae*. *Infect Immun.* **77**, 4696-4703.
250. Müller, C.M., Schneider, G., Dobrindt, E., Emödy, L., Hacker, J., Uhlin, B.E. 2009. Differential effects and interactions of endogenous and horizontally acquired H-NS-like proteins in pathogenic *Escherichia coli*. *Mol Microbiol.* **75**, 280-293.

**2010**

251. Albert-Weissenberger, C., Sahr, T., Sismeiro, O., Hacker, J., Heuner, K., Buchrieser, C. 2010. Control of flagellar gene regulation in *Legionella pneumophila* and its relation to growth phase. *J Bacteriol.* **192**, 446-455.
252. Müller, C.M., Schneider, G., Dobrindt, U., Emödy, L., Hacker, J., Uhlin, B.E. 2010. Differential effects and interactions of endogenous and horizontally acquired H-NS-like proteins in pathogenic *Escherichia coli*. *Mol. Microbiol.* **75**, 280-293.
253. Moriel, D.G., Bertoldi, I., Spagnuolo, A., Marchi, S., Rosini, R., Nesta, B., Pastorello, I., Corea, V.A., Torricelli, G., Cartocci, E., Savino, S., Scarselli, M., Dobrindt, U., Hacker, J., Tettelin, H., Tallon, L.J., Sullivan, S., Wieler, L.H., Ewers, C., Pickard, D., Dougan, G., Fontana, M.R., Rappuoli, R., Pizza, M., Serino, L. 2010. Identification of protective and broadly conserved vaccine antigens from the genome of extraintestinal pathogenic *Escherichia coli*. *Proc Natl Acad Sci USA* **107**, 9072-7.
254. Bauchart, P., Germon, P., Brée, A., Oswald, E., Hacker, J., Dobrindt, U. 2010. Pathogenomic comparison of human extraintestinal and avian pathogenic *Escherichia coli* – search for factors involved in host specificity or zoonotic potential. *Microb Pathog.* 105-115
255. Lehti, T.A., Bauchart, P., Heikkinen, J., Hacker, J., Korhonen, T.K., Dobrindt, U., Westerlund-Wikström, B. 2010. The Mat fimbria promotes biofilm formation by meningitis-associated *Escherichia coli*. *Microbiology.* 2408-2417
256. Zdziarski, J., Brzuszkiewicz, E., Wullt, B., Liesegang, H., Biran, D., Voigt, B., Grönberg-Hernandez, J., Ragnarsdóttir, B., Hecker, M., Ron, E., Daniel, R., Gottschalk, G., Hacker, J., Svanborg, C., Dobrindt, U. 2010. Host imprints on bacterial genomes – rapid, divergent evolution in individual patients. *PLoS Pathogen* **26**, e1001078.
257. Friedrich, T., Rahmann, S., Weigel, W., Rabsch, W., Fruth, A., Ron, E., Gunzer, F., Dandekar, T., Hacker, J., Müller, T., Dobrindt, U. 2010. High-throughput microarray technology in diagnostics of enterobacteria based on genome-wide probe selection and regression analysis. *BMC Genomics* **11**, 591.

**From 2011**

258. Ünal, C., Schwedhelm, K.F., Thiele, A., Weiwad, M., Schweimer, K., Frese, F., Fischer, G., Hacker, J., Faber, C., Steinert, M. 2011. Collagen IV-derived peptide binds hydrophobic cavity of *Legionella pneumophila* Mip and interferes with bacterial epithelial transmigration. *Cell Microbiol.* **13**, 1558-1572.
259. Schneider, G., Dobrindt, U., Middendorf, B., Hochhut, B., Szijártó, V., Emödy, L., Hacker, J. 2011. Mobilisation and remobilisation of a large archetypal pathogenicity island of uropathogenic *Escherichia coli in vitro* support the role of conjugation for horizontal transfer of genomic islands. *BMC Microbiol.* **11**, 210.

260. Salvador, E., Wagenlehner, F., Köhler, C.-D., Mellmann, A., Hacker, J., Svanborg, C., Dobrindt, U. 2012. Comparison of asymptomatic bacteriuria *Escherichia coli* isolates from healthy individuals versus hospital patients: long-term bladder colonization selects for attenuated virulence phenotypes. *Infect. Immun.* 80, 668-678.
261. Fekete, P.Z., Brzuszkiewicz, E., Blum-Oehler, G., Olasz, F., Szabó, M., Gottschalk, G., Hacker, J., Nagy, B. 2012. DNA sequence analysis of the composite plasmid pTC conferring virulence and antimicrobial resistance for porcine enterotoxigenic *Escherichia coli*. *Int. J. Med. Microbiol.* 302, 4-9.
262. Huja, S., Oren, Y., Trost, E., Brzuszkiewicz, E., Biran, D., Blom, J., Goesmann, A., Gottschalk, G., Hacker, J., Ron, E.Z., Dobrindt, U. 2015. Genomic avenue to avian colisepticemia. *MBio* 6(1), e01681-14.

## Review Articles

### **1981 - 1990**

1. Hacker, J. 1985. Das *Escherichia coli* Hämolyysin: Genetik, Epidemiologie und medizinische Bedeutung. *Forum Mikrobiologie*, **8**, 76-90.
2. Hacker, J., Hughes, C. 1985. Genetics of *Escherichia coli* hemolysin. *Curr. Top. Microbiol. Immunol.*, **118**, 139-162.
3. Hacker, J., Hughes, C. 1985. Genetic analysis of bacterial hemolysin production. *Bull. Inst. Pasteur*, **83**, 149-165.
4. Goebel, W., Hacker, J., Knapp, S., Wagner, W., Wels, W. 1985. Gentechnologische Methoden als Hilfsmittel zur Aufklärung mikrobieller Pathogenität. *Pharma Technologie Journal*, **4**, 44-46.
5. Hacker, J., Goebel, W. 1987. Mechanisms and methods for analysing pathogenicity. *Swiss Biotech*, **5**, 21-31.
6. Goebel, W., Hacker, J. 1989. Regulation of pathogenicity determinants by trans-acting factors. *Curr. Top. Infect. Dis. and Clin. Microbiol.*, **2**, 99-106.
7. Hacker, J., Ott, M. 1989. Genetische Steuerungsmechanismen der bakteriellen Virulenz. *Immunität und Infektion*, **17**, 199-206.
8. Hacker, J. 1990. Genetics of determinants coding for fimbriae and adhesins of extraintestinal *Escherichia coli*. *Curr. Top. Microbiol. Immunol.*, **15**, 1-27.
9. Hacker, J. 1990. Was macht Bakterien zu Krankheitserregern? Molekulare Untersuchungen zum Problem der bakteriellen Pathogenität. *Jahrbuch d. Akad. d. Wiss. in Göttingen* 1989, 62-68.

### **1991 - 2000**

10. Hacker, J., Ott, M., Tschäpe, H. 1991. Das Problem der Pathogenität von *Escherichia coli* und seine Bedeutung für die rekombinante DNA-Technologie. *BIO-Forum*, **14**, 150-157.
11. Marre, R., Hacker, J. 1992. *Legionella pneumophila*, der Erreger der Legionärskrankheit: Umweltkeim und pathogenes Agens. *BioEngineering*, **8**, 60-64.
12. Brühl, P., Heinrich, J., Hacker, J. 1992. Immuntherapie bei Harnwegsinfektionen. *Urologe (A)*, **31**, 37-42.
13. Sloot, N., Hacker, J., Kreft, B., Marre, R. 1992. Uropathogenität von *Escherichia coli* Einfluß von Virulenzdeterminanten auf den Infektionsverlauf. *Chemotherapie Jour.*, **1**, 104-110.
14. Hacker, J. 1992. Role of fimbrial adhesins in the pathogenesis of *E. coli* infections. *Can. J. Microbiol.*, **38**, 120-127.
15. Hacker, J., Fischer, G. 1993. Immunophilins: structure-function relationship and possible role in microbial pathogenicity. *Mol. Microbiol.*, **10**, 445-456.
16. Marre, R., Hacker, J. 1994. Die Legionellose: Gibt es neue Aspekte in Diagnostik, Therapie und Prävention? *Die Medizinische Welt*, **45**, 9-14.
17. Mühldorfer, I., Hacker, J. 1994. Genetic aspects of *Escherichia coli* virulence. *Microb. Pathogenesis*, **16**, 171-181.
18. Blum, G., Schmittroth, M., Hacker, J. 1995. *Escherichia coli* K-12: Herkunft, Nachweiskriterien und Ausbreitung. *BIOSpektrum*, (H4), 11-16.
19. Steinert, M., Hacker, J. 1996. *Legionella pneumophila*: Umweltbakterium und Erreger der Legionärskrankheit. *Biologie in unserer Zeit*, **26**, 8-15.
20. Morschhäuser, J., Köhler, G., Hacker, J. 1996. Gibt es Pathogenitätsfaktoren bei Pilzen? *Mykoses*, **39**, 51-54.
21. Hacker, J. 1996. Microbial pathogenicity factors as parts of global regulatory networks: A short review. *Acta Microbiol. Immunol. Hung.*, **43**, 19-24.
22. Ölschläger, T. A., Khan, A. S., Meier, C., Hacker, J. 1997. Receptors and ligands in adhesion and invasion of *Escherichia coli*. *Nova Acta Leopoldina*, **75**, 195-205.
23. Hacker, J., Blum-Oehler, G., Mühldorfer, I., Tschäpe, H. 1997. Pathogenicity islands of virulent bacteria: Structure, function and impact on microbial evolution. *Mol. Microbiol.*, **23**, 1089-1097.
24. Hacker, J., Köhler, G., Morschhäuser J. 1998. Virulence and resistance mechanisms of pathogenic fungi. *Nova Acta Leopoldina*, **78**, 151-161.
25. Hacker, J., Janke, B., Piechaczek, Nagy, G., K., Dobrindt, U., Blum-Oehler, G., Ölschläger, T. 1999. Virulence factors of pathogenic *E. coli*: Structure, function and impact on microbial evolution. *Nova Acta Leopoldina*, **312**, 183-195.



26. Ziebuhr, W., Ohlsen, K., Korhonen, T.K., Hacker, J. 1999. Evolution of bacterial pathogenesis. *Cell. Molec. Life Sci.*, **56**, 719-728.
27. Steinert, M., Hentschel, U., Marre, R., Hacker, J. 2000. Symbiosis and pathogens: evolution of the microbe-host interaction. *Naturwissenschaften*, **87**, 1-11.
28. Hentschel, U., Steinert, M., Hacker, J. 2000. Common molecular mechanisms of symbiosis and pathogenesis. *Trends Microbiol.*, **8**, 226-231.
29. Morschhäuser, J., Köhler, G., Ziebuhr, W., Blum-Oehler, G., Dobrindt, U., Hacker, J. 2000. Evolution of microbial pathogens. *Phil. Transactions (Royal Society), Biol. Science*, **355**, 695-704.
30. Dobrindt, U., Janke, B., Piechaczek, K., Nagy, G., Ziebuhr, W., Fischer, G., Schierhorn, A., Hecker, M., Blum-Oehler, G., Hacker, J. 2000. Toxin genes on pathogenicity islands: Impact for microbial evolution. *Int. J. Med. Microbiol.*, **290**, 307-311.
31. Hacker, J., Kaper, J.B. 2000. Pathogenicity islands and the evolution of microbes. *Ann. Rev. of Microbiol.*, **54**, 641-679.
32. Hacker, J. 2000. Was macht Mikroben zu Krankheitserregern? *Nova Acta Leopoldina*, **83**, 73-88.

### **2001 - 2010**

33. Dobrindt, U., Hacker J. 2001. Whole genome plasticity in pathogenic bacteria. *Curr. Opinion Microbiol.*, **4**, 550-557.
34. Hacker, J. 2001. Von Menschen und Mikroben: Versuch einer evolutionären Infektionsbiologie. In: *Verhandlungen der 121. Versammlung der „Gesellschaft Deutscher Naturforscher und Ärzte“*, (E.L. Winnacker, Ed.), 169-179.
35. Hacker, J., Carniel, E. 2001. Fitness, Genomic Islands and Bacterial Pathogenicity: A Darwinian View on the Evolution of Pathogenic Microbes. *EMBO Reports*, **2**, 376-381.
36. Hentschel, U., and Hacker, J. 2001. Pathogenicity islands: The tip of the iceberg. *Microbes Infection*, **3**, 545-548.
37. Steinert, M., Heuner, K., Hacker, J. 2001. Legionellosis, a disease transmitted by technical vectors. *Contrib. Microbiol.*, 12-19.
38. Ziebuhr, W., Krimmer, V., Hoffmann, A., Kirschner, S., Gohlke, F., Löhr, J.F., Eulert, J., Hacker, J. 2001. Molecular diagnosis of septicemic loosening of orthopedic implants. *Nova Acta Leopoldina*, **84**, 91-101.
39. Dobrindt, U., Hentschel, U., Kaper, J., Hacker, J. 2002. Genome plasticity of pathogenic and non-pathogenic enterobacteria. *Curr. Top. Microbiol. Immunol.*, **264**, 157-175.
40. Köhler, G., Morschhäuser, J., Hacker, J. 2002 Genome structure of pathogenic fungi. *Curr. Top. Microbiol. Immunol.*, **264**, 149-163.

41. Heuner, K., Steinert, M., Marre, R., Hacker, J. 2002. Genome structure and evolution of *Legionella* species. *Curr. Top. Microbiol. Immunol.*, **264**, 61-73.
42. Dobrindt, U., Piechaczek, K., Schierhorn, A., Fischer, G., Hecker, M., Hacker, J. 2002. Influence of the *leuX* encoded tRNA<sup>Leu</sup><sub>5</sub> on the regulation of gene expression in pathogenic *Escherichia coli*. *Mol. Microbiol. Biotechnol.*, **4**, 205-209.
43. Hacker, J. 2002. Wasser als Quelle von Infektionen. *Nova Acta Leopoldina*, **85**, 223-245.
44. Hacker, J., Hecker M. 2002. Funktionelle Genomforschung - Von der Genomsequenz zur lebenden Zelle. Deutsche Forschungsgemeinschaft, Denkschrift "Perspektiven der Forschung", Band XI, 217 – 240.
45. Theiss, S., Kohler, G.A., Kretschmar, M., Nichterlein, T., Hacker, J. 2002. New molecular methods to study gene functions in *Candida* infections. *Mycoses*. **45**, 345-350.
46. Hacker, J., Hentschel, U., Dobrindt, U. 2003. Prokaryotic chromosomes and disease. *Science*, **301**, 790-793.
47. Hacker, J., Blum-Oehler, G., Hochhut, B., Dobrindt, U. 2003. The molecular basis of infectious diseases: pathogenicity islands and other mobile genetic elements. A review. *Acta Microbiol. Immunol. Hung.*, **50**, 321-330.
48. Fünfstück, R., Stein, G., Naber, K.G., Hacker, J., Marget, W. 2003. Urinary tract infections, *Med Klin.*, **98**, 377-387.
49. Gross, R., Hacker, J., Goebel, W. 2003. The Leopoldina international symposium on parasitism, commensalism and symbiosis-common themes, different outcome. *Mol Microbiol.*, **47**, 1749-1758.
50. Gil Lemaignere, C., Roilides, E., Hacker, J., Muller, F.M. 2003. Molecular typing for fungi-a critical review of the possibilities and limitations of currently and future methods. *Clin Microbiol Infect.*, **9**, 172-185.
51. Hacker, J., 2003. Parasitism, Commensalism, Symbiosis – Common Themes, Different Outcome Resumee. *Nova Acta Leopoldina*, **88**, 193-197.
52. Ölschläger, T.A., Dobrindt, U., Janke, B., Middendorf, B., Karch, H., Hacker, J. 2003. Analysis of pathogenicity islands of STEC. *Methods Mol. Med.*, **73**, 99-112.
53. Hacker, J., Hochhut, B., Middendorf, B., Schneider, G., Buchreiser, C., Gottschalk, G., Dobrindt, U. 2004. Pathogenomics of mobile genetic elements of toxigenic bacteria. *Intern. J. Med. Microbiol.*, **293**, 453-461.
54. Dobrindt, U., Hochhut, B., Hentschel, U., Hacker, J. 2004. Genomic Islands in pathogenic and environmental microorganisms: from paradox to paradigm. *Nature Reviews Microb.*, **2**, 414-424.
55. Ölschläger, T., Hacker, J. 2004. Impact of pathogenicity islands in bacterial diagnostics. *APMIS* **112**, 930–936.

56. Hochhut, B., Dobrindt, U., Hacker, J. 2005. Pathogenicity islands and their role in bacterial virulence and survival. *Contrib. Microbiol.*, **12**, 234 – 254.
57. Ohlsen, K., Hacker, J. 2005. Infections in the elderly. *Int. J. Med. Microbiol.* **294**, 471-472.
58. Hentschel, U., Ölschläger, T., Dobrindt, U., Hacker, J. 2005. Mechanisms of Destruction and Healing in Ecosystems: A Microbiologist's View. *Nova Acta Leopoldina*, **343**, 121 – 126.
59. Hacker, J., Dobrindt, U., Gottschalk, G., Brüggemann, H., Carniel, E., Buchrieser, C., Middendorf, B., Hochhut, B. 2005. Analysis of Infectious Agents and the Concept of Pathogenicity Islands. *Nova Acta Leopoldina*, **344**, 61 – 65.
60. Hammerschmidt, S., Hacker, J., Klenk, H.D. 2005. Threat of Infection: Microbes of high pathogenic potential strategies of detection, control and eradication. *Int. J. Med. Microbiol.* **295**, 141 – 151.
61. Hacker, J. 2006. Warum Bakterien krank machen – Zur Molekularbiologie bakterieller Pathogenitätsmechanismen. Nordrhein-Westfälische Akademie der Wissenschaften, Vorträge, Reihe N, **471**, 1 – 36.
62. Sasakawa, C., Hacker J., 2006. Host-microbe interaction: bacteria. *Curr. Opin. Microbiol.* **9**, 1 – 4.
63. Becker, K., Bierbaum, G., von Eiff, C., Engelmann, S., Gotz, F., Hacker, J., Hecker, M., Peters, G., Rosenstein, R., Ziebuhr, W. 2007. Understanding the physiology and adaptation of staphylococci: A post-genomic approach. *Int J Med Microbiol.* **297**, 483-501.
64. Bielaszewska, M., Dobrindt, U., Gartner, J., Gallitz, I., Hacker, J., Karch, H., Muller, D., Schubert, S., Schmidt, A., Sorsa, L.J., Zdziarski, J. 2007. Aspects of genome plasticity in pathogenic *Escherichia coli*. *Int J Med Microbiol.* **297**, 625-639.
65. Hacker, J., Blum-Oehler, G., 2007. In appreciation of Theodor Escherich and *Escherichia coli*. *Nature Reviews Microb.* **5**, 902.
66. Demuth, A., Y. Aharonowitz, T. T. Bachmann, G. Blum-Oehler, C. Buchrieser, A. Covacci, U. Dobrindt, L. Emody, A. van der Ende, J. Ewbank, L. A. Fernandez, M. Frosch, F. G. Portillo, M. S. Gilmore, P. Glaser, W. Goebel, S. E. Hasnain, J. Heesemann, K. Islam, T. Korhonen, M. Maiden, T. F. Meyer, C. Montecucco, E. Oswald, J. Parkhill, M. G. Pucciarelli, E. Ron, C. Svanborg, B. E. Uhlin, S. N. Wai, J. Wehland, and J. Hacker. 2008. Pathogenomics: an updated European Research Agenda. *Infect Genet Evol* **8**, 386-393.
67. Ahmed, N., Dobrindt, U., Hacker, J., Hasnain, S. 2008. Genomic fluidity of pathogenic bacteria: applications in diagnostics, molecular epidemiology and intervention strategies. *Nature Rev Microbiol.* **6**, 387-394.
68. Dobrindt, U. Hacker J. 2008 Targeting virulence traits; potential strategies to combat extraintestinal pathogenic *E. coli* infections. *Curr Opin Microbiol.* **11**, 409-413.
69. Dobrindt, U., Bauchart, P., Zdziarski, J., Reidl, S., Bruszkiewicz, E., Gottschalk, G., Svanborg, D., Hacker J. 2008. Genome fluidity and its impact on virulence gene expression in extraintestinal pathogenic *Escherichia coli*. *Nova Acta Leopoldina NF* **98**; 97-1003.

70. Götz, F., Hacker, J., Hecker, M. 2009. Pathophysiology of staphylococci in the post-genomic era. *Int J Med Microbiol.* 2009 Oct 15, Epub ahead of print.
71. Hacker, J. 2009 How dangerous is Mexican influenza? *MMW Fortschr Med.*; **151** (19):6.
72. Brzuszkiewicz, E., Gottschalk, G., Ron, E., Hacker, J., Dobrindt, U. 2009. Adaptation of Pathogenic *E. coli* to Various Niches: Genome Flexibility is the Key. *Genome Dyn.* **6**: 110-125.
73. Stark, K., Niedrig, M., Biederbick, W., Merkert, H., Hacker, J. 2009. Climate changes and emerging diseases. What new infectious diseases and health problem can be expected? *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz*: 699-714.
74. Ohlsen, K., Oelschlaeger, T., Hacker, J., Khan, A.S. 2010. Carbohydrate receptor(s) of bacterial adhesins Implication and reflection. *Topics in Current Chemistry* **288**, 17-65.
75. Dobrindt, U., Zdziarski, J., Salvador, E., Hacker, J. 2010. Bacterial genome plasticity and its impact on adaptation during persistent infection. *Int J Med Microbiol.* **300**, 145-154
76. Dobrindt U, Chowdary MG, Krumbholz G, Hacker J. 2010. Genome dynamics and its impact on evolution of *Escherichia coli*. *Med Microbiol Immunol.* **199**, 145-154
77. Hacker J., Dobrindt U. 2010. Nosocomial infections and their control. *Int J Med Microbiol.* 300(6)-341.

### **From 2011**

78. Hacker, J., Dobrindt, U. 2011. 9<sup>th</sup> International Meeting on Microbioal Markers. *Int J Med Microbiol.* 301, 613.
79. Hasnain, S.E., Friedrich, B., Mettenleitner, T., Dobrindt, U., Hacker, J. 2012. Climate change and infectious diseases – impact of global warming and climate change on infectious diseases: myth or reality? *Int J Med Microbiol.* 302, 1-3.
80. Dobrindt U., Hacker J., Svanborg C. 2013. Preface. Between Pathogenicity and Commensalism. *Curr Top Microbiol Immunol.* **358**, v-vii
81. Leimbach, A., Hacker, J., Dobrindt, U. 2013. *E. coli* as an all-rounder: the thin line between commensalism and pathogenicity. *Curr Top Microbiol Immunol.* **358**, 3-32.
82. Kohli, S., Singh, Y., Sowpati, D. T., Ehtesham, N. Z., Dobrindt, U., Hacker, J., & Hasnain, S. E. 2015. Human mesenchymal stem cells: New sojourn of bacterial pathogens. *Int J Med Microbiol.* 305(3), 322-326.

## Contributions to Books

### 1981 - 1990

1. Berger, H., Hacker, J., Hof, H., Hughes, C., Juarez, A., Knapp, S., Müller, D., Goebel, W. 1983. Cloning and characterization of hemolysin and hemagglutination determinants involved in urinary tract infection caused by *Escherichia coli*. **In:** Experimental bacterial and parasitic infections (eds.: G. Keusch, T. Wadström), Elsevier New York, Amsterdam, Oxford, pp. 137-144.
2. Goebel, W., Hacker, J., Hughes, C., Knapp, S., Hof, H., Müller, D., Juarez, A., Kreft, J. 1984. Gene cloning and bacterial pathogenicity. **In:** Genetic manipulation impact on man and society (eds.: W. Arber, K. Illmensee, W. J. Peacock, P. Starlinger), ISCU Press, London, pp. 29-42.
3. Hacker, J., Hughes, C., Knapp, S., Juarez, A., Schmidt, G., Goebel, W. 1984. Cloning and genetic characterization of factors which contribute to the virulence of extraintestinal *E. coli* strains. **In:** Antibiotic resistance plasmids, gene manipulations, medical aspects (eds.: S. Mitsunashi, L. Rosival, V. Krcmery), Avicenum- und Springer-Verlag, Prag, Berlin, Heidelberg, Wien, New York, pp. 229-346.
4. Goebel, W., Hacker, J., Knapp, S., Then, I., Wagner, W., Hughes, C., Juarez, A. 1985. Structure, function and regulation of the plasmid-encoded hemolysin of *Escherichia coli*. **In:** Plasmids in Bacteria (eds.: D.R. Helinski, S.N. Cohen, D.B. Clewell, D.A. Jackson, A. Hollaender). Plenum Press, New York, London, pp. 791-805.
5. Hacker, J., Jarchau, T., Knapp, S., Marre, S., Schmidt, G., Schmoll, T., Goebel, W. 1986. Genetic and *in vivo* studies with S fimbriae antigens and related virulence determinants of extraintestinal *E. coli* strains. **In:** Protein-Carbohydrate Interaction-Molecular Biology of Microbial Pathogenicity (eds.: D. Lark, S. Normark, H. Wolf-Watz, B. E. Uhlin) Academic Press London, pp.125-133.
6. Chakraborty, T., Gilmore, M., Hacker, J., Huhle B., Kathariou, S., Knapp, S., Kreft, J., Müller, B., Leimeister, M., Parrisius, J., Wagner, W., Goebel, W. 1986. Genetic approaches to study hemolytic toxins in bacteria. **In:** Bacterial protein toxins (eds.: P. Falmagne, J. E. Alouf, F. J. Fehrenbach, J. Jeljaszewics, M. Thelestam), Zbl. Bakt. Mikrobiol. Hyg. I. Abt. **Suppl. 15**, G. Fischer-Verlag, Stuttgart, New York, pp. 241-252.
7. Goebel, W., Chakraborty, T., Hacker, J. 1987. Anwendung von DNA-Proben bei bakteriellen Infektionskrankheiten. **In:** Aktuelle Aspekte der Infektiologie (ed. W. Siegenthaler), Georg Thieme Verlag, Stuttgart, New York, pp. 145- 150.
8. Kathariou, S., Hacker, J., Hof, H., Then, I., Wagner, W., Kuhn, M., Goebel, W. 1987. Bacterial cytolysins - extracellular proteins and virulence factors. **In:** 38. Colloquium Mosbach 1987. Molecular Basis of viral and Microbial Pathogenesis, pp. 142-150.
9. Hacker, J., König, W., Scheffer, J., König, J., Hughes, C., Marre, R., Goebel, W. 1988. Adhesins, serum resistance and cytolysins of *E. coli* - Genetic structure and role in pathogenicity. **In:** Bacteria, complement and the phagocytic cell (eds.: F. Cabello, C. Pruzzo), NATO ASI series, **Vol. H24**, Springer Verlag, 221-229.
10. Goebel, W., Kathariou, S., Hacker, J., Chakraborty, T., Leimeister-Wächter, M., Ludwig, W., Hess, J., Kuhn, M., Wagner, W. 1988. Bacterial cytolysins as virulence factors. **In:** Bacterial

protein toxins (eds.: Fehrenbach et al.) Fischer Verlag, Stuttgart, New York, Zbl. Bakt. **Suppl. 17**, 325-335.

11. Hacker, J., Schmoll, T., Ott, M., Marre, R., Hof, H., Knapp, S., Then, I., Goebel, W. 1989. Genetic structure and expression of virulence determinants from uropathogenic *E. coli* strains. **In:** Host-parasite interactions in urinary tract infections; Studies of infections disease research (ed.: E. Kass), Chicago, pp. 114-156.
12. Marre, R., Hacker, J., Schneider, H., Wood, G., Schmidt, G., Sack, K. 1989. Influence of Cyclosporin A, Cyclophosphamide and Estrogen on the effect of cloned virulence determinants in experimental *E. coli* pyelonephritis. **In:** Host-parasite interactions in urinary tract infections; Studies of infections disease research (ed.: E. Kass), Chicago, pp. 355-360.

### **1991 - 2000**

13. Hacker, J., Marre, R., Morschhäuser, J., Ott, M., Schmoll, T. 1991. Genetics of factors involved in extraintestinal *E. coli* pathogenicity. **In:** Microbial surface components and toxins in relation to pathogenesis (eds.: E. Z. Ron, S. Rottem), pp. 93-100.
14. Hacker, J., Ott, M. 1992. Pathogenicity testing. **In:** Safety in industrial microbiology and biotechnology (ed. C. H. Collins, A. J. Bedo) Butterworth Press, pp. 75-92.
15. Hacker, J., Morschhäuser, J., Ott, M., Marre, R. 1992. Molecular investigation of *E. coli* virulence in extraintestinal infections. **In:** Molecular recognition in host-parasite interactions (eds.: T. K. Korhonen, T. Hovi, P. H. Mäkelä), Plenum Publ. New York, London, Washington, Boston, pp.85-91.
16. Hacker, J., Hof, H. 1993. Biology and experimental chemotherapy of *Legionella* infection. **In:** Macrolides (eds.: P. M. Tulkens, M. Bryskier, P. Butzler, H. Neu), pp. 229-234.
17. Ott, M., Steinert, M., Bender, L., Ludwig, B., Lück, P. C., Hacker, J. 1993. Temperature dependent replication of virulent and avirulent *Legionella pneumophila* isolates in *Acanthamoeba castellanii*. **In:** Proc. 1992 Intern. Symp. Legionella Orlando, ASM, Washington D. C., pp. 149-151.
18. Lück, P. C., Bender, L., Ott, M., Helbig, J. H., Witzleb, W., Hacker, J. 1993. Analysis of *Legionella pneumophila* serogroup 6 strains isolated from dental units over a three-year period using genomic long range mapping, monoclonal antibodies and virulence testing, and estimation of antibodies on sera of dental personnel. **In:** Proc. 1992 Intern. Symp. Legionella, Orlando, ASM, Washington D. C., pp. 240-242.
19. Hacker, J. 1994. Genetik der Bakterien. **In:** „Lehrbuch der Medizinischen Mikrobiologie“, 7. Auflage (Hrsg. H. Brandis, W. Köhler, H. J. Eggers, G. Pulverer), Fischer-Verlag, Stuttgart, Jena, New York, pp. 102-114.
20. Hacker, J., Ludwig, B., Bender, L., Wintermeyer, E., Rahfeld, J., Fischer, G. 1994. Beeinflussung der *Legionella*-Infektion durch Immunsuppressiva. **In:** „Modulation der Virulenz von Krankheitserregern“, (eds.: J. Hacker, J. Heesemann), SMV-Verlag München, 198-209.

21. Hacker, J., Ott, M., Ludwig, B., Wintermeyer, E., Rahfeld, J., Fischer, G., Jain, B., Tully, M. 1994. Molecular studies on toxin production and other virulence features of *Legionella pneumophila*. **In:** Bacterial protein toxins (eds.: J. Freer et al.), Zbl. Bakteriologie. Suppl., 33-42.
22. Hacker, J., Morschhäuser, J. 1994. S and F1C fimbriae. **In:** Fimbriae - adhesion, genetics, biogenesis and vaccines, (eds.: P. Klemm), CRC Press, pp. 27-36.
23. Mühldorfer, I., Hacker, J., Bremer, E., Donohue-Rolfe, A., 1994. Regulation of Shiga-like toxin-II production by the nucleotid-associated DNA-binding protein H-NS. **In:** „Recent advances in verocytotoxin-producing *E. coli* infections“, (eds.: M. A. Karmali, A. G. Goglio), Elsevier Science Publ., pp. 275-278.
24. Brand, C. B., Hacker, J. 1996. The biology of Legionella infection. **In:** „Host Response to intracellular Pathogens“ (ed. S. H. E. Kaufmann), Chapman and Hall, pp. 291-312.
25. Hacker, J., Blum, G., Caprioli, A., Emödy, L., Falbo, V., Marre, R., Mühldorfer, I., Ritter, A. 1996. Toxin determinants as parts of pathogenicity islands of uropathogenic *E. coli*. **In:** „Bacterial protein toxins“ (eds. P. L. Frandsen et al.) Zbl . Bakteriologie. Suppl. **28**, 190-197.
26. Oelschläger, T., Morschhäuser, J., Meier, C., Schipper, C., Hacker, J. 1996. Adhesion and invasion of *Escherichia coli*: Studies on function and regulation. **In:** „Toward anti-adhesion therapy for microbial diseases“ (eds.: I. Kahane, I. Ofek) Adv. Exp. Med. Biol. **408**, 57-62.
27. Hacker, J. 1997. Virulenzmerkmale uropathogener Bakterien. **In:** „Harnwegsinfektionen-Pathogenetische, klinische und therapeutische Aspekte“ (eds.: R. Fünfstück, E. Straube, G. Stein), Pabst-Verlag, pp. 27-35.
28. Hacker, J., Blum-Oehler, G., Köhler, G., Morschhäuser, J., Mühldorfer, I., Ziebuhr, W. 1998. Molecular analysis of infectious diseases: Fungal and bacterial infections of the urinary tract. **In:** „Proceedings of the Siebold International Medical Symposium“ (ed. I. Nagataki), pp. 129 - 143.
29. Blum-Oehler, G., Dobrindt, U., Weiß, N., Janke, B., Schubert, S., Rakin, A., Heesemann, J., Marre, R., Hacker, J. 1998. Pathogenicity islands of uropathogenic *Escherichia coli*: Implications for the evolution of virulence. **In:** Bacterial protein toxins (eds.: J. Hacker et al.) Zbl. Bakt., Suppl. **29**: 380 - 386.
30. Hacker, J., Blum-Oehler, G., Janke, B., Nagy, G., Goebel, W. 1999. Pathogenicity islands of extraintestinal *Escherichia coli* **In:** „Pathogenicity islands and other mobile virulence elements (eds. Kaper, J., Hacker, J.). ASM-Press, Washington D.C., pp. 59 - 76.
31. Hacker, J., Kaper, J. 1999. The concept of pathogenicity islands. **In:** „Pathogenicity islands and other mobile virulence elements (eds. Kaper, J., Hacker, J.). ASM-Press, Washington D.C., pp. 1 - 11.
32. Ohlsen, K., Ziebuhr, W., Reichardt, W., Götz, F., Witte, W., Hacker, J. 1999. Mobile elements, phages and genomic islands of Staphylococci and Streptococci. **In:** „Pathogenicity islands and other mobile virulence elements (eds. Kaper, J., Hacker, J.). ASM-Press, Washington D.C., pp. 265-287.
33. Hacker, J. 1999. Prokaryotes in medicine. **In:** „Biology of the Prokaryotes“ (eds. J. W. Lengeler, G. Drews, H. G. Schlegel), Thieme-Verlag, Stuttgart, 815 - 849.

34. Hacker, J. 1999. Virulenzfaktoren aus mikrobiologischer Sicht **In:** „Urogenitale Infektionen“ (ed. A. Hofstetter), Springer-Verlag, pp. 75 – 96.
35. Dobrindt, U., Hacker, J. 1999. Plasmids, Phages and Pathogenicity islands in relation with bacterial protein toxins: Impact on the evolution of microbes. **In:** „Bacterial protein toxins: A sourcebook“, 2. Edition (J. Alouf, J. Freer, eds.), Academic Press, pp. 3 – 23.
36. Oelschlaeger, T.A. and Hacker, J. 2000. Strategies of bacterial interaction with eukaryotic host cells. **In:** „Bacterial internalization into eukaryotic cells“ (eds. Oelschlaeger, T.A., Hacker, J.), Plenum Press, New York, pp. 529-538.
37. Brand, B.C., Amann, R.I., Steinert, M., Grimm, D., Hacker, J. 2000. Identification and *in situ* detection of intracellular bacteria in the environment. **In:** Bacterial internalization into eukaryotic cells (eds. T.A.Oelschlaeger and J. Hacker), Plenum Publishing Corp., pp. 601-624.
38. Staib, P., Morschhäuser, J., Hacker, J. 2000. Pilze: Erreger-Wirtsbeziehung, Allgemeine Pathogenese. **In:** „Klinische Infektiologie“ (eds. R. Marre, T. Mertens, M. Trautmann, E. Vanek), Verlag Urban & Schwarzenberg, pp. 28-32.

### **2001 - 2010**

39. Hacker, J. 2001. Genetik der Bakterien. **In:** „Lehrbuch der Medizinischen Mikrobiologie“ (eds. Eggers, H.J., Fleischer, B., Köhler, W., Marre, R., Pfister, H., Pulverer, G.), Gustav-Fischer-Verlag, 180 - 197.
40. Heuner, K., Steinert, M., Dietrich, C., Fischer, G., Köhler, R., Hacker, J. 2002. Function and Expression of *Legionella pneumophila* surface factors. **In:** Legionella: Proceedings of the 5<sup>th</sup> International Conference (Eds. R. Marre, Y. Abu Kwaik, C. Bartlett, N. Cianciotto, B. Fields, M. Frosch, J. Hacker, P. C. Lück), ASM-Press, Washington/USA., 43 – 48.
41. Mühldorfer, I., Ziebuhr, W., Hacker, J. 2002. *Escherichia coli* in urinary tract infection. **In:** „Molecular Medical Microbiology“ (eds. M. Sussman et al.), Academic Press, 584-603.
42. Steinert, M., Hägele, S., Skriwan, C., Grimm, D., Fajardo, M., Heuner, K., Schleicher, M., Hentschel, U., Ludwig, W., Marre, R. 2002. Interaction of *Legionella pneumophila* with *Dictyostelium discoideum*. **In:** Legionella: Proceedings of the 5<sup>th</sup> International Conference (Eds. R. Marre, Y. Abu Kwaik, C. Bartlett, N. Cianciotto, B. Fields, M. Frosch, J. Hacker, P. C. Lück), ASM-Press, Washington/USA., 161 - 164.
43. Hentschel, U., Fieseler, L., Wehrl, M., Gernert, C., Steinert, M., Hacker, J. Horn, M. 2003. Microbial Diversity of Marine Sponges. **In:** Marine Molecular Biotechnology (Ed. W.E.G. Müller) 59-88.
44. Hochhut, B., Hacker, J. 2005. Pathogenicity islands. **In:** The Dynamic Bacterial Genome, Adv. Mol. Cell. Microbiol. Series (Ed. P. Mullany) Cambridge University Press, 323 – 350.
45. Hacker, J., Dobrindt, U., Steinert, M., Merkert, H., Hentschel, U. 2005. Co-evolution of bacteria and their hosts: A marriage made in heaven or hell? **In:** The Influence of Cooperative Bacteria



- on Animal Host Biology, Adv. Mol. Cell. Microbiol. Series (Eds. M. J. McFall-Ngai, B. Henderson, E. G. Ruby) Cambridge University Press, 57 – 72.
46. Hacker, J., Dobrindt, U. 2005. Pathogenomics of *Escherichia coli* and *Shigella* species. **In:** Pathogenomics – Genome analysis of pathogenic microbes (Eds. J. Hacker, U. Dobrindt) Wiley VCH, 85 – 108.
  47. Hochhut, B., Dobrindt, U., Hacker, J. 2006. The contribution of pathogenicity islands to the evolution of bacterial pathogens. **In:** Evolution of microbial pathogens (Eds. H. Seifert, V J. DiRita), ASM-Press/Washington/USA, 83 – 107.
  48. Ziebandt, A.-K., Becher, D., Ohlsen, K., Hacker, J., Hecker, M., Engelmann, S. 2006. The influence of *agr* and  $\sigma^B$  in growth phase dependent regulation of virulence factors in *Staphylococcus aureus*. **In:** Proteomics of Microbial Pathogens (Eds. P. Jungblut, M. Hecker), Wiley VCH, 225 – 247.
  49. Hacker, J. 2008. Evolution of genomic islands and the evolution of pathogenicity. **In:** Evolutionary biology of bacterial and fungal pathogens (Eds. F. Baquero, C. Nombela, G. H. Cassell, Gutierrez-Fuentes, J. A.), ASM-Press, Washington/USA, 129 – 139
  50. Hacker, J. Merkert, H., 2008. Migration und Seuchen. **In:** Natur und Migration (Ed. H. zur Hausen) Nova Acta Leopoldina, Bd. 97, Nr. 358
  51. Brzuszkiewicz, E., Gottschalk, G., Ron, E., Hacker, J., Dobrindt, U. 2009. Adaptation of pathogenic *E. coli* to various niches: genome flexibility is the key. **In:** Genome Dynamics Vol. 6 (H. de Reuse, S. Bereswill, J.-N. Volff, eds.), Karger Publishers, in press.
  52. Ohlsen, K., Dobrindt, U., Bruhn, H., Eckart, M., Hacker, J. 2009. Pathogenomics: Identification of novel drug targets and vaccine candidates. **In:** Drug Discovery in Infectious Diseases: From Drug Targets to Drug Candidates (P. Selzer, ed.), Wiley-VCH, Weinheim, in press.
  53. Ölschläger, T., Dobrindt, U., Khan, A.S., Hacker, J. 2009. Bacterial cell walls compounds and pathogenicity. **In:** Prokaryotic Cell Wall Compounds: Structure and Biochemistry (H. König, A. Varma, eds.), Springer, Heidelberg, in press.
  54. Dobrindt, U., Hacker, J. 2010 How bacterial pathogens got constructed. **In:** Bacterial Virulence: Basic Principles, Models and Global Approaches (P. Sansonetti, ed.), Wiley-VCH, Weinheim, in press.
  55. Ölschläger, T., Dobrindt, U., Khan, A.S., Hacker, J. 2009. Bacterial cell walls compounds and pathogenicity. **In:** Prokaryotic Cell Wall Compounds: Structure and Biochemistry (H. König, A. Varma, eds.), Springer, Heidelberg, pp. 313-343.
  56. Dobrindt, U., Hacker, J. 2009. How bacterial pathogens got constructed. **In:** Bacterial Virulence: Basic Principles, Models and Global Approaches (P. Sansonetti, ed.), Wiley-VCH GmbH & Co. KGaA, Weinheim, pp. 3-16.
  57. Hacker, J. 2010. Verheißung auf das Ewige Leben? – Naturwissenschaftliche, ethische und juristische Aspekte der neuen Biomedizin. **In:** Eric Hilgendorf und Susanne Beck (Hg.): Biomedizinische Forschung in Europa. Nomos Verlag, pp. 201-210.

**From 2011**

58. Dobrindt, U., Zdziarski, J., Hacker, J. 2011. Impact of genome plasticity on adaptation of *Escherichia coli* during urinary bladder colonization. **In:** Genome plasticity and infectious diseases (J. Hacker, U. Dobrindt, R. Kurth, eds.), ASM Press, Washington DC, 3-15.
59. Dobrindt U., Hacker J., Reinhart K. 2012. Preface. **In:** Genome Plasticity and Infectious Diseases (J. Hacker, U. Dobrindt, R. Kurth). ASM Press, Washington DC, xi-xii

**Books and edited Journals**

1. Tschäpe, H., Goebel, W., Hacker, J., Heesemann, J. (Editors). 1993. Workshop on „Molecular Pathogenesis of Bacteria-Basic and Applied Aspects“, Proceedings. Zbl. Bakt. (Special Issue), **278**, 143-455.
2. Hacker, J. Heesemann, J. (Editors). 1994. Modulation der Virulenz von Krankheitserregern. Socio Medico Verlag (SMV) München, 1-226.
3. Hacker, J. Alouf, J., Brand, B., Falmagne, P., Fehrenbach, F., Freer, J., Goebel, W. Gross, R., Locht, C., Montecucco, C., Olsnes, S., Rappuoli, R. (Editors) 1998. Eighth European Workshop on „Bacterial Protein Toxins“ (ETOX8), Proceedings. Zbl. Bakt., Supplement **29**, 1-532.
4. Hacker, J., Kaper, J. (Editors) 1999. „Pathogenicity islands and other mobile virulence elements“. ASM-Press, Washington D.C., 1-352.
5. Oelschlaeger, T.A., Hacker, J. (Editors) 2000. Bacterial internalization into eukaryotic cells. Subcell Biochem. Plenum Publishing Corp., 1-643.
6. Hacker, J., Heesemann, J. 2000. Molekulare Infektionsbiologie, Spektrum-Verlag, Heidelberg, 1-307.
7. Emödy, L., Pal, T., Hacker, J. Blum-Oehler, G. (Editors) 2000. Genes and proteins underlying microbial urinary tract infections: basic aspects and applications. Adv. Exp. Med. Biol., Plenum Press, New York, 485: 1-368.
8. Locht, C., Alouf, J., Falmagne, P., Fehrenbach, F., Freer, J., Goebel, W., Gross, R., Hacker, J., Montecucco, C., Olsnes, S., Rappuoli, R. (Editors) 2000. Ninth European Workshop on „Bacterial Protein Toxins“ (ETOX9), Proceedings. Int. J. Med. Microbiol., **290**, 293-506.
9. Hacker, J. (Editor). 2001. Forum: Pathogenicity Islands, Microbes and Infection., **3**, 545-594.
10. Cabiliaux, V., Locht, C., Alouf, J., Falmagne, P., Fehrenbach, F., Freer, J., Goebel, W., Gross, R., Hacker, J., Montecucco, C., Olsnes, S., Rappuoli, R. (Editors) 2001. Tenth European Workshop on „Bacterial Protein Toxins“ (ETOX10), Proceedings. Int. J. Med. Microbiol., **291**, 399-582.
11. Marre, R., Abu Kwaik, Y., Bartlett, C., Cianciotto, N., Fields, B.S., Frosch, M., Hacker, J., Lück, P.C. (Editors) 2002. Proceedings of the 5<sup>th</sup> International Conference on Legionella. ASM-Press, Washington, D.C., 1 - 444.

12. Hacker , J., Kaper, J. (Editors). 2002. Pathogenicity islands (PAIs) and the evolution of pathogenic microbes. *Curr. Top. Microbiol. Immunol.*, **264**, Vol. 1, 1-231 und Vol. 2, 1-208.
13. Hacker, J., Heesemann, J. 2002. *Molecular Biology of Infectious Diseases*. Wiley-Press, New York, 1-339.
14. Hacker, J. 2003 *Menschen, Seuchen und Mikroben. Infektionen und ihre Erreger*. Beck-Verlag. München, 1-128.
15. Oswald, E., Hacker, J., Dobrindt, U. (Editors) 2005. *Escherichia coli* in Human and Veterinary Medicine. *Int. J. Med. Microbiol. (Special Issue)*, **295**, 355 – 511.
16. Hacker, J., Klenk, H.-D. (Editors) 2005. Threat of Infection. Microbes of High Pathogenic Potential – Strategies for Detection, Control and Eradication. *Nov. Acta Leopold. Bd.* **92**, Nr. 344
17. Hacker, J., Dobrindt, U. 2006. *Pathogenomics – Genome analysis of pathogenic microbes*, Wiley VCH, 1 – 568.
18. Blum-Oehler, G., Dobrindt, U., Hacker, J., Ter Meulen, V. 2008. *Escherichia coli – Facets of a versatile pathogen*. *Nova Acta Leopoldina Bd* **98**, 1-183
19. Friedrich B, Hacker J, Hasnain SE, Mettenleiter TC 2010. Climate Change and Infectious Diseases. *Nov. Acta Leopold. Bd.* **111**, Nr. 381
20. Hacker J, Hecker M 2012. Was ist Leben?. *Nov. Acta Leopold. Bd.* **116**, Nr. 394
21. Hacker J, Dorbindt U, Kurth R. 2012. *Genome Plasticity and Infectious Diseases*. ASM Press. Washington DC, 3-377
22. Hacker J 2013. Nachhaltigkeit der Wissenschaft. *Nov. Acta Leopold. Bd.* **117**, Nr. 398
23. Dobrindt U, Hacker J, Svanborg C 2013. Between Pathogenicity and Commensalism. *Curr Top Microbiol Immunol.* **358**, 3-353