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(54) **HYPERBLEBBING BACTERIAL STRAINS AND USE THEREOF FOR PRODUCTION OF VACCINES**

"HYPERBLEBBING" BAKTERIELLE STÄMME UND IHRE VERWENDUNG ZUR HERSTELLUNG
VON IMPFSTOFFEN

SOUCHES BACTERIENNES "HYPERBLEB" ET LEUR UTILISATION POUR LA PRODUCTION DE
VACCINS

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(56) References cited:
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- **STURGIS JAMES N: "Organisation and evolution of the tol-pal gene cluster." JOURNAL OF MOLECULAR MICROBIOLOGY AND BIOTECHNOLOGY, vol. 3, no. 1, January 2001 (2001-01), pages 113-122, XP001089625 January, 2001 ISSN: 1464-1801**
- **BERNADAC ALAIN ET AL: "Escherichia coli tol-pal mutants form outer membrane vesicles." JOURNAL OF BACTERIOLOGY, vol. 180, no. 18, 1998, pages 4872-4878, XP002208245 ISSN: 0021-9193**

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- LLAMAS MARIA A ET AL: "Mutations in each of the Tol genes of Pseudomonas putida reveal that they are critical for maintenance of outer membrane stability." JOURNAL OF BACTERIOLOGY, vol. 182, no. 17, September 2000 (2000-09), pages 4764-4772, XP002208246 ISSN: 0021-9193
- EILEENE ROUPPE VAN DER VOORT ET AL.: "Specificity of human bactericidal antibodies against PorA P1.7,16 induced with a hexavalent meningococcal outer membrane vesicle vaccine" INFECTION AND IMMUNITY, vol. 64, no. 7, July 1996 (1996-07), pages 2745-2751, XP002221357
- TETSURO KOGA ET AL.: "Isolation and characterization of the outer membrane from Vibrio parahaemolyticus" THE JOURNAL OF GENERAL MICROBIOLOGY, vol. 129, no. 9, 1983, pages 3185-3196, XP008010130