

Title (en)  
BORDETELLA VACCINES

Publication  
**EP 0474646 A4 19921021 (EN)**

Application  
**EP 90906442 A 19900330**

Priority  
• US 33264189 A 19890331  
• US 50072490 A 19900328

Abstract (en)  
[origin: WO9012086A1] Bordetella outer membrane proteins, vaccine compositions containing these proteins, and methods of administering the same are disclosed. The outer membrane proteins can be produced by recombinant means and expressed in an avirulent carrier microbe which may be used to immunize a subject of interest. The subject antigens provide a means for protecting against or treating Bordetella-induced diseases such as upper respiratory tract disease in turkey and chickens, atrophic rhinitis in swine and dogs, and whooping cough in humans.

IPC 1-7  
**C12N 5/10; C12N 15/03; C12N 15/31; A61K 39/02; C07K 15/04; C07K 15/14; C07K 15/28; C07K 17/02**

IPC 8 full level  
**A61K 39/02** (2006.01); **A61K 39/10** (2006.01); **A61K 39/112** (2006.01); **A61K 39/116** (2006.01); **A61K 39/395** (2006.01); **C07K 14/005** (2006.01); **C07K 14/195** (2006.01); **C07K 14/235** (2006.01); **C07K 14/41** (2006.01); **C07K 14/705** (2006.01); **C07K 16/00** (2006.01); **C07K 16/12** (2006.01); **C12N 1/21** (2006.01); **C12N 15/09** (2006.01); **C12P 21/00** (2006.01); **C12P 21/08** (2006.01); **A61K 39/00** (2006.01); **C12R 1/01** (2006.01); **C12R 1/19** (2006.01); **C12R 1/42** (2006.01)

CPC (source: EP)  
**A61K 39/099** (2013.01); **C07K 14/235** (2013.01); **C07K 16/1225** (2013.01); **A61K 2039/552** (2013.01)

Citation (search report)  
• [X] WO 8809669 A1 19881215 - MOLECULAR ENG ASS [US]  
• [X] JOURNAL OF BACTERIOLOGY, vol. 159, no. 2, August 1984, pages 780-782, Baltimore, MD, US; F. SHARECK et al.: "Cloning of Bordetella pertussis outer membrane proteins in Escherichia coli"  
• [X] INFECTION AND IMMUNITY, vol. 47, no. 3, March 1985, pages 744-751, American Society for Microbiology, US; J.A. MONTARAZ et al.: "Identification of a 68-kilodalton protective protein antigen from Bordetella bronchiseptica"  
• [X] REVIEWS OF INFECTIOUS DISEASES, vol. 10, suppl. 2, July-August 1988, pages S327-S330; C.D. PARKER et al.: "Surface proteins of Bordetella pertussis"  
• [X] INFECTION AND IMMUNITY, vol. 56, no. 12, December 1988, pages 3189-3195, American Society for Microbiology, US; M.J. BRENNAN et al.: "Identification of a 69-kilodalton nonfimbrial protein as an agglutinin of Bordetella pertussis"  
• See references of WO 9012086A1

Designated contracting state (EPC)  
AT BE CH DE DK ES FR GB IT LI LU NL SE

DOCDB simple family (publication)  
**WO 9012086 A1 19901018**; AU 5432690 A 19901105; CN 1046532 A 19901031; EP 0474646 A1 19920318; EP 0474646 A4 19921021; IL 93957 A0 19901223; JP H04504656 A 19920820

DOCDB simple family (application)  
**US 9001689 W 19900330**; AU 5432690 A 19900330; CN 90103622 A 19900331; EP 90906442 A 19900330; IL 9395790 A 19900330; JP 50612690 A 19900330