

Title (en)  
RECOMBINANT DNA-DERIVED CHOLERA TOXIN SUBUNIT ANALOGS

Title (de)  
VON ANALOGEN DER CHOLERATOXIN-UNTEREINHEIT ABGELEITETE REKOMBINANTE DNA

Title (fr)  
ANALOGUES DE SOUS-UNITES DE TOXINE DU CHOLERA DERIVES D'ADN RECOMBINE

Publication  
**EP 0584284 B9 20021113 (EN)**

Application  
**EP 92915195 A 19920504**

Priority  
• US 69473391 A 19910502  
• US 9203703 W 19920504

Abstract (en)  
[origin: WO9219265A1] The development of subunits and subunit analogs of the cholera exotoxin by recombinant DNA techniques provides vaccine products that can retain their biological activity and immunogenicity, and can confer protection against disease challenge. Genetically-engineered modifications of the subunits result in products that retain immunogenicity, yet are reduced in, or are essentially free of, enzymatic activity associated with toxin reactivity.

IPC 1-7  
**C12N 15/31**; C12N 9/12; C12N 1/21; C12N 5/10; A61K 39/106

IPC 8 full level  
**A61K 39/106** (2006.01); **A61P 31/04** (2006.01); **C07K 14/00** (2006.01); **C07K 14/195** (2006.01); **C07K 14/28** (2006.01); **C07K 14/41** (2006.01); **C07K 19/00** (2006.01); **C12N 1/21** (2006.01); **C12N 15/09** (2006.01); **C12N 15/31** (2006.01); **C12P 21/02** (2006.01); **A61K 39/00** (2006.01)

CPC (source: EP US)  
**A61P 31/04** (2018.01 - EP); **C07K 14/28** (2013.01 - EP US); **A61K 39/00** (2013.01 - EP US); **Y10S 424/832** (2013.01 - EP US); **Y10S 435/909** (2013.01 - EP US)

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

DOCDB simple family (publication)  
**WO 9219265 A1 19921112**; AR 248167 A1 19950630; AT E199393 T1 20010315; AU 2293092 A 19921221; AU 665013 B2 19951214; CA 2102105 A1 19921103; CN 1067679 A 19930106; DE 69231708 D1 20010405; DE 69231708 T2 20010705; DK 0584284 T3 20010618; EP 0584284 A1 19940302; EP 0584284 A4 19950315; EP 0584284 B1 20010228; EP 0584284 B9 20021113; ES 2156110 T3 20010616; GR 3035724 T3 20010731; IL 101715 A0 19921230; IL 101715 A 20050619; JP 3242106 B2 20011225; JP H06507551 A 19940901; KR 100249888 B1 20000401; MX 9202030 A 19930201; NZ 242539 A 19931125; US 5770203 A 19980623; US 5874287 A 19990223; ZA 923162 B 19930428

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**US 9203703 W 19920504**; AR 32226892 A 19920504; AT 92915195 T 19920504; AU 2293092 A 19920504; CA 2102105 A 19920504; CN 92104219 A 19920502; DE 69231708 T 19920504; DK 92915195 T 19920504; EP 92915195 A 19920504; ES 92915195 T 19920504; GR 20010400576 T 20010406; IL 10171592 A 19920428; JP 51199592 A 19920504; KR 930703270 A 19931028; MX 9202030 A 19920430; NZ 24253992 A 19920429; US 43560595 A 19950505; US 44904595 A 19950524; ZA 923162 A 19920430