

Title (en)
ERROR-PRONE DNA POLYMERASE I MUTANTS AND METHODS FOR TARGETED RANDOM MUTAGENESIS IN CONTINUOUS CULTURE USING ERROR-PRONE DNA POLYMERASE I MUTANTS

Title (de)
ZU FEHLERN NEIGENDE DNA-POLYMERASE-I-MUTANTEN UND VERFAHREN ZUR GEZIELTEN ZUFALLSMUTAGENESE IN DAUERKULTUR UNTER VERWENDUNG DER ZU FEHLERN NEIGENDEN DNA-POLYMERASE-I-MUTANTEN

Title (fr)
MUTANTS DE POLYMERASE I D'ADN SUJET A L'ERREUR ET TECHNIQUES DE MUTAGENESE ALEATOIRE CIBLEE EN CULTURE CONTINUE UTILISANT CES MUTANTS DE POLYMERASE I D'ADN SUJET A L'ERREUR

Publication
EP 1504091 A2 20050209 (EN)

Application
EP 03736735 A 20030529

Priority
• US 0316798 W 20030529
• US 38494402 P 20020531

Abstract (en)
[origin: WO03102213A2] Mutant forms of DNA polymerase I having mutations within motif A and/or motif B in the active domain that increase error rates during replication. Expression plasmid constructs and cell lines for expressing these low-fidelity polymerase mutants are provided. Methods are also provided for utilizing these low-fidelity DNA polymerase I mutants for generating libraries of randomly-mutagenized genes, which may be prokaryotic or eukaryotic. Random mutagenesis involves the coupling of mutagenesis and selection in continuous culture for convenient iteration, which results in diverse range of base pair substitutions, widely distributed along the sequence. Some advantages include the minimization of deleterious damage to chromosomal DNA, and adaptation to strains that are amenable to complementation, which substantially facilitates the generation and identification of enzymes with altered properties.

IPC 1-7
C12N 9/12; **C12N 9/00**; **C07K 14/00**; **C07H 21/04**

IPC 8 full level
C12N 15/09 (2006.01); **C12N 1/15** (2006.01); **C12N 1/19** (2006.01); **C12N 1/21** (2006.01); **C12N 5/10** (2006.01); **C12N 9/12** (2006.01); **C12N 15/10** (2006.01); **C12Q 1/02** (2006.01); **C12Q 1/68** (2006.01)

CPC (source: EP)
C12N 9/1252 (2013.01); **C12N 15/1024** (2013.01)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 03102213 A2 20031211; **WO 03102213 A3 20040617**; AU 2003237269 A1 20031219; CA 2485203 A1 20031211; EP 1504091 A2 20050209; EP 1504091 A4 20060426; JP 2005528114 A 20050922

DOCDB simple family (application)
US 0316798 W 20030529; AU 2003237269 A 20030529; CA 2485203 A 20030529; EP 03736735 A 20030529; JP 2004510449 A 20030529