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

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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.

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IPC 8 full level

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