Title (en)

PROTEIN ENGINEERING OF GLUCOAMYLASE TO INCREASE pH OPTIMUM, SUBSTRATE SPECIFICITY AND THERMOSTABILITY

Title (de)

PROTEINVERÄNDERUNG VON GLUKOAMYLASE ZUR ERWEITERUNG DES PH-OPTIMUMS, DER SUBSTRATSPEZIFITÄT UND THERMOSTBILITÄT

Title (fr)

FABRICATION PAR GENIE GENETIQUE ET A L'AIDE DE PROTEINES D'UNE GLUCOAMYLASE PERMETTANT D'OBTENIR UN PH OPTIMAL ET D'ACCROITRE LA SPECIFICITE D'UN SUBSTRAT AINSI QUE LA STABILITE THERMIQUE

Publication

EP 0970193 A1 20000112 (EN)

Application

EP 97936193 A 19970724

Priority

- US 2257896 P 19960724
- US 2307796 P 19960802
- US 9712983 W 19970724

Abstract (en)

[origin: WO9803639A1] A fungal glucoamylase including a mutation pair Asn20Cys coupled with Ala27Cys forming a disulfide bond between the two members of the pair. The mutation provides increased thermal stability and reduced isomaltose formation to the enzyme. A fungal glucoamylase including a 311-314Loop mutation, wherein reduced isomaltose formation is provided by the mutation, is also provided. A fungal glucoamylase, including a mutation Ser411Ala wherein increased pH optimum and reduced isomaltose formation is provided by the mutation, is also provided. Combinations of the mutations in engineered glucoamylases are also provided as are combinations with other glucoamylase mutations that provide increased thermal stability, increased pH optimum and reduced isomaltose formation for cumulative improvements in the engineered glucoamylases.

IPC 1-7

C12N 9/34; C12N 1/21; C12N 15/09; C12N 15/63

IPC 8 full level

C12N 15/09 (2006.01); **C12N 1/21** (2006.01); **C12N 9/34** (2006.01); **C12P 19/04** (2006.01); **C12Q 1/40** (2006.01); C12R 1/645 (2006.01)

CPC (source: EP)

C12N 9/2428 (2013.01)

Citation (search report)

See references of WO 9803639A1

Designated contracting state (EPC)

AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

WO 9803639 A1 19980129; AU 3892397 A 19980210; CA 2259958 A1 19980129; CN 1238009 A 19991208; EP 0970193 A1 20000112; JP 2000515377 A 20001121

DOCDB simple family (application)

US 9712983 W 19970724; AU 3892397 A 19970724; CA 2259958 A 19970724; CN 97196758 A 19970724; EP 97936193 A 19970724; JP 50722398 A 19970724