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(21) International Application Number: PCT/EP98/02799 (22) International Filing Date: 6 May 1998 (06.05.98) (30) Priority Data: 97111377.4 5 July 1997 (05.07.97) EP (34) Countries for which the regional or international application was filed: AT et al. (71) Applicant (for all designated States except US): SOCIETE DES PRODUITS NESTLE S.A. [CH/CH]; P.O. Box 353, CH-1800 Vevey (CH). (72) Inventors; and (75) Inventors/Applicants (for US only): MONOD, Michel [CH/CH]; Avenue V.-Rossel 18, CH-1012 Lausanne (CH). DOUMAS, Agnès [CH/CH]; Aux Cordeires, CH-1124 Gollion (CH). AFFOLTER, Michael [CH/CH]; Chemin de Margerol 3B, CH-1009 Pully (CH). VAN DEN BROEK, Peter [NL/CH]; Le Grand Chemin 88, CH-1066 Epalinges (CH). (74) Agent: GROS, Florent; Société des Produits Nestlé S.A., P.O. Box 353, CH-1800 Vevey (CH).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: CLONING OF THE PROLYL-DIPEPTIDYL-PEPTIDASE FROM <i>ASPERGILLUS ORYZAE</i> (57) Abstract The invention has for object the new recombinant prolyl-dipeptidyl-peptidase enzyme (DPP IV) from <i>Aspergillus oryzae</i> comprising the amino-acid sequence from amino acid 1 to amino acid 755 of SEQ ID NO:2 or functional derivatives thereof, and providing a high level of hydrolysing specificity towards proteins and peptides starting with X-Pro- thus liberating dipeptides of X-Pro type, wherein X is any amino acid. The invention also provides a DNA molecule encoding the enzyme according to the invention, cells expressing the enzyme according to the invention by recombinant technology, an <i>Aspergillus</i> naturally providing a prolyl-dipeptidyl-peptidase activity which has integrated multiple copies of the <i>Aspergillus</i> native promoter which naturally directs the expression of the gene encoding the prolyl-dipeptidyl-peptidase activity, <i>Aspergillus</i> naturally providing a prolyl-dipeptidyl-peptidase activity which is manipulated genetically so that the <i>dppIV</i> gene is inactivated. The invention provides a method for producing the enzyme according to the invention, comprising cultivating the cells of the invention in a suitable growth medium under conditions that the cells express the enzyme, and optionally isolating the enzyme in the form of a concentrate. The invention provides the use of the enzyme or the cells of the invention to hydrolyse protein containing materials. The invention provides the use of an enzyme and/or a cell providing a prolyl-dipeptidyl-peptidase activity, in combination with at least an enzyme providing a prolidase to hydrolyse protein containing materials. In a last further aspect, the invention provides a food product comprising a protein hydrolysate obtainable by fermentation with at least a microorganism providing a prolyl-dipeptidyl-peptidase activity higher than 50 mU per ml when grown in a minimal medium containing 1 % (w/v) of wheat gluten.		