Dipeptidyl Peptidase IV from Human, Recombinant

Cat. No. NATE-0204

Lot. No. (See product label)

Introduction

Description Native DPPIV is a ubiquitous type II transmembrane glycoprotein and a serine protease of the S9 prolyl-oligopeptidase family. In vivo, it is synthesized with a signal peptide, which functions as the membrane anchoring domain. There is an 88% sequence homology between the human and porcine kidney enzymes. Both exist as homodimers with a subunit molecular weight of ~30 kDa. The high mannose 100 kDa DPPIV precursor is processed in the Golgi to yield a 124 kDa heavily N-and O-linked mature glycoprotein. It is then sorted to the apical membrane through the concerted action of both N-and O-linked glycans and its association with lipid microdomains. The porcine enzyme contains 18.3% carbohydrates, which the glycan composition is 0.9% fucose, 3.4% mannose, 5.1% galactose, 8.2% glucosamine, and 0.7% sialic acid. DPPIV is highly expressed on endothelial cells, epithelial cells, and lymphocytes. It is also present in plasma in its soluble form.

Applications Human dipeptidyl peptidase IV has been used to study interactive hemodynamic effects of its inhibition and angiotensin-converting enzyme inhibition in humans. Human dipeptidyl peptidase IV has also been used in a study that informed the understanding of Hymenoptera venom allergies. The enzyme from Creative Enzymes has been used to study the LC-MS (liquid chromatography-mass spectrometry) based assay method for DPP-IV inhibitor screening and substrate discovery.

Synonyms EC 3.4.14.5; 54249-88-6; DPPIV; DPP4; dipeptidyl aminopeptidase IV; Xaa-Pro-dipeptidyl-aminopeptidase; Gly-Pro naphthylamidase; postproline dipeptidyl aminopeptidase IV; lymphocyte antigen CD26; glycoprotein GP110; dipeptidyl peptidase IV; glycylproline aminopeptidase; glycylproline aminopeptidase; X-prolyl dipeptidyl aminopeptidase; pep X; leukocyte antigen CD26; glycylprolyl dipeptidylaminopeptidase; dipeptidyl-peptide hydrolase; glycylprolyl aminopeptidase; dipeptidyl-aminopeptidase IV; DPP IV/CD26; amino acyl-prolyl dipeptidyl aminopeptidase; T cell triggering molecule Tp103; X-PDAP

Product Information

Species Human

Source Baculovirus infected Sf9 cells

Form Supplied as a solution in 10 mM Tris-HCl, pH 7.6, 200 mM NaCl, 1 mM EDTA and 10% glycerol.

EC Number EC 3.4.14.5

CAS No. 54249-88-6

Molecular Weight 105 kDa

Activity > 10 units/mg protein

Pathway Incretin Synthesis, Secretion, and Inactivation, organism-specific biosystem; Integration of energy metabolism, organism-specific biosystem; Metabolism, organism-specific biosystem; Protein digestion and absorption, organism-specific biosystem; Protein digestion and absorption, conserved biosystem; Regulation of Insulin Secretion, organism-specific biosystem; Synthesis, Secretion, and Inactivation of Glucagon-like Peptide-1 (GLP-1), organism-specific biosystem

Function aminopeptidase activity; collagen binding; dipeptidyl-peptidase activity; peptidase activity; peptide

Function	aminopeptidase activity; collagen binding; dipeptidyl peptidase activity; peptidase activity; peptide binding; protease binding; protein binding; protein homodimerization activity; receptor activity; receptor binding; serine-type endopeptidase activity; serine-type peptidase activity
Unit Definition	One unit will produce 1.0 µmole of p-nitroaniline from Gly-L-Pro p-nitroanilide per min in 100 mM Tris-HCl at pH 7.6 at 37°C.

Usage and Packaging

Package	pkg of > 1.0 units/vial

Storage and Shipping Information

Storage	−20°C