Data Sheet (Cat.No.TMPY-02120)

TargetMol

XPNPEP2 Protein, Human, Recombinant (His)

General Information

Synonyms:	AEACEI;X-prolyl aminopeptidase (aminopeptidase P) 2, membrane-bound;APP2
Protein Construction:	A DNA sequence encoding the human XPNPEP2 (O43895) (Met 1-Ala 650) without the pro peptide was expressed, with a polyhistidine tag at the C-terminus. Predicted N terminal: His 22
Species:	Human
Expression Host:	HEK293 Cells
Accession:	O43895
Molecular Weight:	72 kDa (predicted); 80 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to cleave the fluorogenic peptide substrate, H-Lys(2-Aminobenzoyl) Pro-Pro-pNitroanilide(K(Abz)PP-pNA). The specific activity is > 300 pmoles/min/μg.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Aminopeptidase P (APP) is a hydrolase specific for N-terminal imido bonds, which are common to several collagen degradation products, neuropeptides, vasoactive peptides, and cytokines. A membrane-bound and soluble form of this enzyme (XPNPEP2) have been identified as products of two separate genes. XPNPEP2, the X-linked gene that encodes membranous aminopeptidase P (APP), has been reported to associate with APP activity. The

membrane aminopeptidase P (XPNPEP2) is largely limited in distribution to endothelia and brush border epithelia. APP and XPNPEP2 contain homologous blocks of sequence common to members of the "pita bread-fold" protein family, of which Escherichia coli methionine aminopeptidase is the prototype. The C-2399A variant in XPNPEP2 is associated with reduced APP activity and a higher incidence of AE-ACEi. XPNPEP2 mRNA was detected in fibroblasts that carry the translocation, suggesting that this gene at least partially escapes X inactivation. XPNPEP2 is a candidate gene for premature ovarian failure (POF).

Reference

Sprinkle TJ,et al.(2000) Cloning, chromosomal sublocalization of the human soluble aminopeptidase P gene (XPNPEP1) to 10q25.3 and conservation of the putative proton shuttle and metal ligand binding sites with XPNPEP2. Arch Biochem Biophys. 378(1): 51-6.

Prueitt RL,et al.(2000) Physical mapping of nine Xq translocation breakpoints and identification of XPNPEP2 as a premature ovarian failure candidate gene. Cytogenet Cell Genet. 89(1-2): 44-50.

Duan QL,et al.(2005) A variant in XPNPEP2 is associated with angioedema induced by angiotensin I-converting enzyme inhibitors. Am J Hum Genet. 77(4): 617-26.

Woodard-Grice AV,et al.(2010) Sex-dependent and race-dependent association of XPNPEP2 C-2399A polymorphism with angiotensin-converting enzyme inhibitor-associated angioedema. Pharmacogenet Genomics. 20(9): 532-6.