

## Aminopeptidase A Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	Ly-51;6030431M22Rik;ENPEP;APA;Bp-1/6C3;glutamyl aminopeptidase;Ly51
Protein Construction:	A DNA sequence encoding the mature form of mouse ENPEP (P16406) (Arg41-Pro945) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	P16406
Molecular Weight:	106 kDa (predicted); 113 kDa (reducing conditions)

### QC Testing

Biological Activity:	Measured by its ability to cleave the fluorogenic peptide substrate, Glu-7-amido-4-methyl coumarin. The specific activity is > 200 pmoles/min/ $\mu$ g.
Purity:	> 91 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing 20 mM Tris, 500 mM NaCl, 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

ENPEP, also known as aminopeptidase A, is a member of the peptidase M1 family. Members of this family are involved in response to cadmium ion and proteolysis. They located in 6 components and are expressed in 26 plant structures. ENPEP is expressed by epithelial cells of the proximal tubule cells and the glomerulus of the nephron. It also can be detected in a variety of other tissues. ENPEP probably plays a role in regulating growth and differentiation of early B-lineage cells. It also may play a role in the catabolic pathway of the renin-angiotensin

system. ENPEP is a zinc-dependent membrane-bound aminopeptidase that catalyzes the cleavage of glutamatic and aspartatic amino acid residues from the N-terminus of polypeptides. It degrades vasoconstricting angiotensin II into angiotensin III and therefore helps to regulate blood pressure.

### Reference

Speth RC, et al. (2008) The significance of brain aminopeptidases in the regulation of the actions of angiotensin peptides in the brain. *Heart Fail Rev.* 13(3):299-309.

Rose JE, et al. (2010) Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. *Mol Med.* 16(7-8):247-53.

Pérez I, et al. (2009) Increased APN/CD13 and acid aminopeptidase activities in head and neck squamous cell carcinoma. *Head Neck.* 31(10):1335-40.

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