Data Sheet (Cat.No.TMPY-01344)

TargetMol

MAP1D Protein, Human, Recombinant (His)

General Information

Synonyms:	MetAP 1D;Metap1l;MAP 1D;methionyl aminopeptidase type 1D (mitochondrial);MAP1D
Protein Construction:	A DNA sequence encoding the human MAP1D (NP_954697.1) (Arg 44-Ala 335) was expressed, with an initial Met at the N-terminus and a polyhistidine tag at the C-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q6UB28
Molecular Weight:	33.4 kDa (predicted); 36 kDa (reducing conditions)

QC Testing

Biological Activity:	Measure by its ability to remove methionine from a fluorogenic peptide substrate H-Met-Gly-Pro-AMC. The resulting GP-AMC is cleaved by human DPPIV/CD26. The specific activity is >30 pmoles/min/μg.
Purity:	> 92 % 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 50 mM Tris, 100 mM NaCl, pH 8.0.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

Methionine aminopeptidase 1D, also known as MAP1D, is a member of the peptidase M24A family. N-terminal methionine removal is an important cellular process required for proper biological activity, subcellular localization, and eventual degradation of many proteins. The enzymes that catalyze this reaction are called

Methionine aminopeptidases (MAPs). MAP1D is overexpressed in colon cancer cell lines and colon tumors as compared to normal tissues (at protein level). Downregulation of MAP1D expression by shRNA in HCT-116 colon carcinoma cells reduces anchorage-independent growth in soft agar. MAP1D binds two cobalt ions per subunit. The true nature of the physiological cofactor is under debate. MAP1D is also active with zinc, manganese, or divalent ions. MAP1D removes the amino-terminal methionine from nascent proteins. It may also play an important role in colon tumorigenesis.

Reference

Serero A.,et al.,(2003), An unusual peptide deformylase features in the human mitochondrial N-terminal methionine excision pathway. J. Biol. Chem. 278:52953-52963.

Leszczyniecka M.,et al., (2006), MAP1D, a novel methionine aminopeptidase family member is overexpressed in colon cancer.Oncogene 25:3471-3478.

Vaca Jacome A.S.,et al.,(2015), N-terminome analysis of the human mitochondrial proteome.Proteomics 15:2519-2524.