

PTMA Protein, Human, Recombinant (GST)

General Information

Synonyms:	prothymosin, α ; prothymosin, alpha; TMSA
Protein Construction:	A DNA sequence encoding the human PTMA (P06454-1) (Ser 2-Asp 111) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P06454-1
Molecular Weight:	39 kDa (predicted); 45 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing PBS, pH 7.5. 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

PTMA (prothymosin, alpha, N-GST chimera) is a small, 12.4 kDa protein. It is a 109-111 amino acid long polypeptide as the precursor of thymosin α 1. Thymosins are named because they were originally isolated from the thymus. But now in many other tissues, thymosins also can be detected. Thymosins have diverse biological activities, and two in particular, thymosins α 1 and α 4, have potentially important uses in medicine, some of which have already progressed from the laboratory to the clinic. In general, PTMA is associated with cellular proliferation

and carcinogenesis (Eschenfeldt et al., 1986), cellular and viral transcription (Cotter et al., 2000), protection against apoptosis and chromatin remodelling (Karetsou et al., 1998). PTMA may have a dual role both intracellularly and extracellularly. In relation to diseases, thymosins have been categorized as biological response modifiers. Thymosin a1 is derived from PTMA. For animals that lack thymus glands, thymosin a1 is responsible for the activity of that preparation in restoring immune function.

Reference

Manrow RE,et al.(1992) The human prothymosin alpha gene family contains several processed pseudogenes lacking deleterious lesions. Genomics. 13(2):319-31.

Wara DW,et al.(1975) Thymosin activity in patients with cellular immunodeficiency. N Engl J Med. 292(2):70-4.

Garaci E,et al.(2007) Thymosin alpha 1: from bench to bedside. Ann N Y Acad Sci. 1112:225-34.

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