Thymosin beta 4 Protein, Human

Cat. No.:	HY-P72776
Synonyms:	T beta-4; TMSB4X; TB4X; THYB4; TMSB4
Species:	Human
Source:	E. coli
Accession:	P62328 (S2-S44)
Gene ID:	7114
Molecular Weight:	Approximately 4.9 kDa

PROPERTIES

AA Sequence	S D K P D M A E I E K F D K S K L K K T E T Q E K N P L P S K E T I E Q E K Q A G E S
Biological Activity	The biological activity determined by its ability to produce a protective effect against hydrogen peroxide in primary lung fibroblasts is in a concentration range of 0.5 - 10 μg/ml.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, pH 7.4.
Endotoxin Level	<1 EU/μg; determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	TMSB4X protein assumes a crucial role in cytoskeletal organization, as evidenced by its documented impact on actin dynamics. It functions by binding to and sequestering actin monomers (G actin), thereby acting as a potent inhibitor of actin polymerization. Beyond its influence on the cytoskeleton, TMSB4X emerges as a robust inhibitor of bone marrow-derived stem cell differentiation, exerting its effects by impeding the entry of hematopoietic pluripotent stem cells into the S-phase. These multifaceted functions underscore the significance of TMSB4X in orchestrating fundamental cellular processes, including cytoskeletal integrity and stem cell differentiation, highlighting its regulatory role in maintaining cellular homeostasis and orchestrating dynamic cellular responses.

Caution: Product has not been fully validated for medical applications. For research use only.

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