

DESCRIPTION

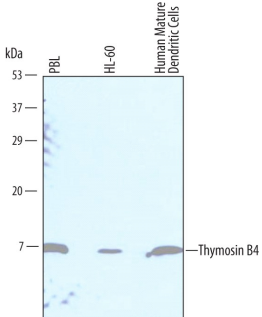
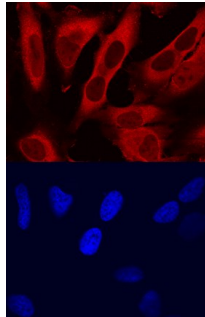
Species Reactivity	Human
Specificity	Detects human Thymosin β4 in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant human (rh) Thymosin β10 and rhThymosin β16 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Thymosin β4 Ser2-Ser44 Accession # P62328
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 μg/mL	See Below
Immunocytochemistry	5-15 μg/mL	See Below

DATA

<p>Western Blot</p>  <p>Detection of Human Thymosin β4 by Western Blot. Western blot shows lysates of human peripheral blood lymphocytes (PBL), HL-60 human acute promyelocytic leukemia cell line, and human mature dendritic cells. PVDF Membrane was probed with 1 μg/mL of Sheep Anti-Human Thymosin β4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6796) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Thymosin β4 at approximately 5 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunocytochemistry</p>  <p>Thymosin β4 in HeLa Human Cell Line. Thymosin β4 was detected in immersion fixed HeLa human cervical epithelial carcinoma cell line using Sheep Anti-Human Thymosin β4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6796) at 10 μg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red, upper panel; Catalog # NL010) and counterstained with DAPI (blue, lower panel). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>
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PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Thymosin beta 4 (Tβ4; also TB4X and Fx) is a 5.0 kDa member of the β-thymosin family of molecules. Members of this family range from 41-44 amino acids (aa) in length, and possess an isoelectric point that lies between pH 4.0-7.0 (α-thymosins have values less than 4.0). Multiple cell types produce Tβ4, either constitutively, or after stimulation. They include platelets, endothelial cells, neutrophils, astrocytes and macrophages. Tβ4 is both a secreted and intracellular molecule. The secreted form contributes to wound healing and angiogenesis, and may act on ATPase. Intracellularly, it forms a 1:1 complex with G-actin and blocks F-actin polymerization. This regulates the availability of actin monomers for filament formation and subsequent cell migration. Mature human Tβ4 is 43 aa in length (aa 2-44). It contains an actin-binding site (aa 17-23), one acetylated Ser and five acetylated lysines (4; 12; 26; 32; 39) and one phosphorylation site at Thr23. Tβ4 undergoes proteolytic processing to generate an N-terminal acetylated peptide (aa 2-5: SerAspLysPro). Mature human Tβ4 is identical to mouse Tβ14 in aa sequence, and it shares 74% aa identity with its human family member Tβ10.