

T β -4 (FL-44): sc-67114

BACKGROUND

Proteins in the thymosin β family are highly conserved polar peptides that bind monomeric Actin and thereby inhibit Actin polymerization. These proteins act as the main intracellular G-Actin sequestering peptides. The most abundant thymosin β family member in mammalian cells and tissues is thymosin β -4 (T β -4, also designated Seraspenide). T β -4 participates in several cellular events including cancerogenesis, apoptosis, angiogenesis, blood coagulation and wound healing. Specifically, T β -4 promotes cell migration and adhesion, accelerates healing, reduces inflammation and becomes upregulated in a wide variety of human carcinomas. Due to the effects of T β -4 in these events, it may become a protein of significant biological and pharmaceutical relevance.

REFERENCES

- Huff, T., et al. 2001. β -thymosins, small acidic peptides with multiple functions. *Int. J. Biochem. Cell Biol.* 33: 205-220.
- Philp, D., et al. 2003. The Actin binding site on thymosin β -4 promotes angiogenesis. *FASEB J.* 17: 2103-2105.
- Bock-Marquette, I., et al. 2004. Thymosin β -4 activates integrin-linked kinase and promotes cardiac cell migration, survival and cardiac repair. *Nature* 432: 466-472.
- Huff, T., et al. 2004. Nuclear localisation of the G-Actin sequestering peptide thymosin β -4. *J. Cell Sci.* 117: 5333-5341.
- Gibbons, D.L., et al. 2004. A comparative analysis of RNA targeting strategies in the thymosin β -4 gene. *J. Mol. Biol.* 342: 1069-1076.
- Wang, W.S., et al. 2004. Overexpression of the thymosin β -4 gene is associated with increased invasion of SW480 colon carcinoma cells and the distant metastasis of human colorectal carcinoma. *Oncogene* 23: 6666-6671.

SOURCE

T β -4 (FL-44) is a rabbit polyclonal antibody raised against amino acids 1-44 representing full length T β -4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

T β -4 (FL-44) is recommended for detection of Thymosin β -4 X and Y chromosomal precursor and active peptide, and to a lesser extent, other Thymosin β and Thymosin-like proteins of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

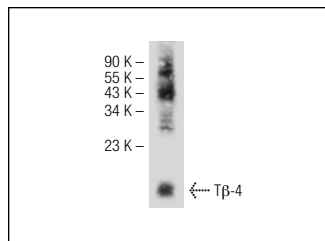
T β -4 (FL-44) is also recommended for detection of Thymosin β -4 X and Y chromosomal precursor and active peptide, and to a lesser extent, other Thymosin beta and Thymosin-like proteins in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for T β -4 siRNA (m): sc-45217, T β -4 shRNA Plasmid (m): sc-45217-SH and T β -4 shRNA (m) Lentiviral Particles: sc-45217-V.

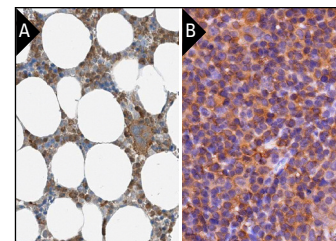
Molecular Weight of T β -4: 5 kDa.

Positive Controls: rat heart extract: sc-2393.

DATA



T β -4 (FL-44): sc-67114. Western blot analysis of T β -4 expression in rat heart tissue extract.



T β -4 (FL-44): sc-67114. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of bone marrow poietic cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of cells in germinal and non-germinal centers (B).

SELECT PRODUCT CITATIONS

- Henkel, C., et al. 2010. From proteomic multimarker profiling to interesting proteins: Thymosin- β 4 and Kininogen-1 as new potential biomarkers for inflammatory hepatic lesions. *J. Cell. Mol. Med.* 15: 2176-88.

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Try **T β -4 (4H7): sc-293251**, our highly recommended monoclonal alternative to T β -4 (FL-44).