

T β -4 (N-18): sc-32405

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 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of 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.

Blocking peptide available for competition studies, sc-32405 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 (N-18) is recommended for detection of Thymosin β -4 precursor and active peptide, and to a lesser extent, 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), immunofluorescence (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 (N-18) is also recommended for detection of Thymosin β -4 precursor and active peptide, and to a lesser extent, Thymosin β and Thymosin-like proteins in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of T β -4: 5 kDa.

Positive Controls: rat heart extract: sc-2393.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Hinkel, R., et al. 2008. Thymosin β 4 is an essential paracrine factor of embryonic endothelial progenitor cell-mediated cardioprotection. *Circulation* 117: 2232-2240.


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Try **T β -4 (4H7): sc-293251**, our highly recommended monoclonal alternative to T β -4 (N-18).