SANTA CRUZ BIOTECHNOLOGY, INC.

PTα (N-18): sc-18205

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Prothymosin α (PTα) is a nuclear protein that is widely expressed in mammalian tissues, including kidney, liver, spleen, normal lymphocytes, human T cell leukemia virus-infected T cells and myeloma cells. The human PTα gene maps to chromosome 2 and encodes a protein that exhibits punctuated nuclear distribution, which correlates to transcription sites. PTα is a chromatin-remodeling protein that was initially thought to mediate T lymphocyte maturation, but subsequently has been shown to be involved in cell cycle progression, proliferation and cell differentiation. PTα is thought to be transported into the nucleus by the karyopherin β1-Rch-1 complex, where it associates with Histones H2A, H2B, H3 and H4. Also, PTα is phosphorylated on Thr 7 and Thr 12 or 13 by Prothymosin α-phosphorylating kinase (PTαK) in a mitogen-activating pathway. The amino terminus of PTα is cleaved to produce a secreted, biologically active peptide thymosin α1, which may be used as an immunomodulator in cancer patients and patients with chronic active hepatitis, or as an immunoenhancer of vaccines in immunocompromised individuals.

REFERENCES

1. Eschenfeldt, W.H., et al. 1986. The human prothymosin α gene is polymorphic and induced upon growth stimulation: evidence using a cloned cDNA. Proc. Natl. Acad. Sci. USA 83: 9403-9407.
2. Barcia, M.G., et al. 1992. Prothymosin α is phosphorylated by casein kinase-2. FEBS Lett. 312: 152-156.
3. Naylor, P.H., et al. 1992. Identification of immunoreactive forms of thymosin α1 in serum and supernatants by combining HPLC and RIA. Int. J. Immunopharmacol. 14: 1267-1278.

CHROMOSOMAL LOCATION

Genetic locus: PTMA (human) mapping to 2q37.1, LOC728026 (human) mapping to 9q22.32; Ptma (mouse) mapping to 1 D.

SOURCE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-18205 P, (100 µg 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.

PROTOCOLS

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

APPLICATIONS

PTα (N-18) is recommended for detection of Prothymosin α (PTα) precursor and active peptide and LOC728026 of human origin and Prothymosin α (PTα) precursor and active peptide of mouse and rat 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), 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).

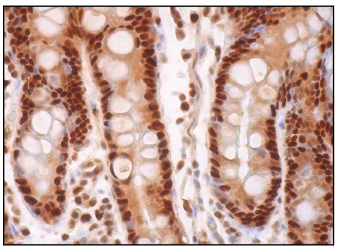
PTα (N-18) is also recommended for detection of Prothymosin α (PTα) precursor and active peptide and LOC728026 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of PTα: 12 kDa.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PTα (N-18): sc-18205. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing nuclear and cytoplasmic staining of glandular cells.

RESEARCH USE

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