

PTTG (M-16): sc-5843

BACKGROUND

The product of the oncogene PTTG, pituitary tumor transforming gene, is a human homolog of the anaphase-inhibitor vertebrate protein, securin. PTTG contains a basic amino-terminal domain and an acidic carboxy-terminal domain, which acts as a transactivation domain when fused to a heterologous DNA binding domain. Human PTTG is overexpressed in Jurkat and is also detected in human thymus, testis, and placenta. PTTG is mainly expressed in the cytoplasm and is also partially localized to the nucleus. Vertebrate PTTG regulates the separin Esp1, which promotes chromatid separation, to overcome the cohesive forces that hold sister chromatids together. This regulatory function of PTTG suggests that defective regulation of cohesion may contribute to cancer by promoting chromosome instability. Although vertebrate PTTG shares cell-cycle functions with its yeast securin counterparts Pds1p and Cut2, none share sequence homology.

REFERENCES

1. Yamamoto, A., et al. 1996. Pds1p, an inhibitor of anaphase in budding yeast plays a critical role in the APC and checkpoint pathway(s). *J. Cell Biol.* 133: 99-110.
2. Dominguez, A., et al. 1998. hPTTG, a human homologue of rat PTTG, is overexpressed in hematopoietic neoplasms. Evidence for a transcriptional activation function of hPTTG. *Oncogene* 17: 2187-2193.
3. Zou, H., et al. 1999. Identification of a vertebrate sister-chromatid separation inhibitor involved in transformation and tumorigenesis. *Science* 285: 418-422.
4. Toth, A., et al. 1999. Yeast cohesion complex requires a conserved protein, Eco1p (Ctf7), to establish cohesion between sister chromatids during DNA replication. *Genes Dev.* 13: 320.
5. Uhlmann, F., et al. 1999. Sister-chromatid separation at anaphase onset is promoted by cleavage of the cohesion subunit Scc1. *Nature* 400: 37-42.

CHROMOSOMAL LOCATION

Genetic locus: PTTG1 (human) mapping to 5q33.3, PTTG2 (human) mapping to 4p14; Pttg1 (mouse) mapping to 11 A5.

SOURCE

PTTG (M-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PTTG of mouse 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-5843 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.

APPLICATIONS

PTTG (M-16) is recommended for detection of PTTG of mouse, rat, and human origin, and PTTG2 of 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).

PTTG (M-16) is also recommended for detection of PTTG and PTTG2 in additional species, including canine.

Suitable for use as control antibody for PTTG siRNA (m): sc-37492, PTTG shRNA Plasmid (m): sc-37492-SH and PTTG shRNA (m) Lentiviral Particles: sc-37492-V.

Molecular Weight (predicted) of PTTG: 22 kDa.

Molecular Weight (observed) of PTTG: 20-29 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MOLT-4 cell lysate: sc-2233 or rat pituitary gland extract: sc-364807.

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.

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.



Try **PTTG (DCS-280): sc-56207** or **PTTG (SPM210): sc-56461**, our highly recommended monoclonal alternatives to PTTG (M-16). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PTTG (DCS-280): sc-56207**.