

PTTG (11.278): sc-135790

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.
6. Minematsu, T., et al. 2006. PTTG overexpression is correlated with angiogenesis in human pituitary adenomas. *Endocr. Pathol.* 17: 143-153.
7. Wang, Z., et al. 2006. Expression of pituitary tumor-transforming gene in patients with multiple myeloma. *Zhongguo Shi Yan Xue Ye Xue Za Zhi* 14: 1143-1145.
8. Cristina, C., et al. 2007. PTTG expression in different experimental and human prolactinomas in relation to dopaminergic control of lactotropes. *Mol. Cancer* 6:4.
9. Boelaert, K., et al. 2007. PTTG and PBF repress the human sodium iodide symporter. *Oncogene* 26: 4344-4356.

CHROMOSOMAL LOCATION

Genetic locus: Pttg1 (mouse) mapping to 11 A5.

SOURCE

PTTG (11.278) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to PTTG of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PTTG (11.278) is recommended for detection of PTTG of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

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. Not for resale.

PROTOCOLS

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



See **PTTG (DCS-280): sc-56207** for PTTG antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.