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PTTG1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7354A

Product Information

Application	IHC-P, IF, WB, E
Primary Accession	O95997
Reactivity	Human
Predicted	Mouse, Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB18596
Calculated MW	22024
Antigen Region	16-45

Additional Information

Gene ID	9232
Other Names	Securin, Esp1-associated protein, Pituitary tumor-transforming gene 1 protein, Tumor-transforming protein 1, hPTTG, PTTG1, EAP1, PTTG, TUTR1
Target/Specificity	This PTTG1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 16-45 amino acids from the N-terminal region of human PTTG1.
Dilution	IHC-P~~1:100~500 IF~~1:100 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PTTG1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PTTG1
Synonyms	EAP1, PTTG, TUTR1

Function	Regulatory protein, which plays a central role in chromosome stability, in the p53/TP53 pathway, and DNA repair. Probably acts by blocking the action of key proteins. During the mitosis, it blocks Separase/ESPL1 function, preventing the proteolysis of the cohesin complex and the subsequent segregation of the chromosomes. At the onset of anaphase, it is ubiquitinated, conducting to its destruction and to the liberation of ESPL1. Its function is however not limited to a blocking activity, since it is required to activate ESPL1. Negatively regulates the transcriptional activity and related apoptosis activity of TP53. The negative regulation of TP53 may explain the strong transforming capability of the protein when it is overexpressed. May also play a role in DNA repair via its interaction with Ku, possibly by connecting DNA damage-response pathways with sister chromatid separation.
Cellular Location	Cytoplasm. Nucleus.
Tissue Location	Expressed at low level in most tissues, except in adult testis, where it is highly expressed. Overexpressed in many patients suffering from pituitary adenomas, primary epithelial neoplasias, and esophageal cancer.

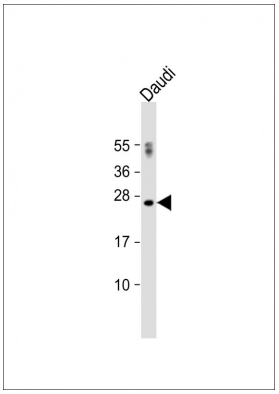
Background

PTTG1 is a homolog of yeast securin proteins, which prevent separins from promoting sister chromatid separation. It is an anaphase-promoting complex (APC) substrate that associates with a separin until activation of the APC. The protein has transforming activity in vitro and tumorigenic activity in vivo, and is highly expressed in various tumors. This protein contains 2 PXXP motifs, which are required for its transforming and tumorigenic activities, as well as for its stimulation of basic fibroblast growth factor expression. It also contains a destruction box (D box) that is required for its degradation by the APC. The acidic C-terminal region of the protein can act as a transactivation domain. It is mainly a cytosolic protein, although it partially localizes in the nucleus.

References

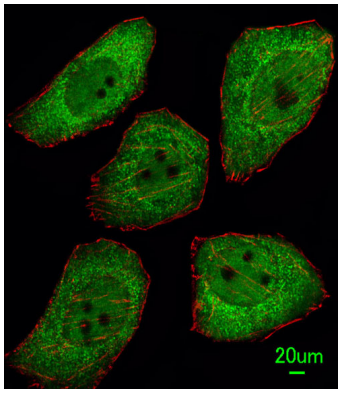
Li,T., J Genet Genomics 36 (6), 335-342 (2009)
Yan,S., Cancer Res. 69 (8), 3283-3290 (2009)
Chesnokova,V., Horm. Res. 71 SUPPL 2, 82-87 (2009)

Images

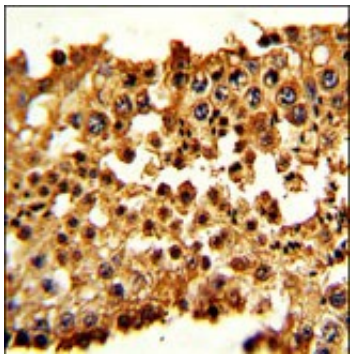


Anti-PTTG1 Antibody (N-term) at 1:500 dilution + Daudi whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 22 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Immunofluorescent analysis of U251 cells, using PTTG1 Antibody (N-term) (Cat. #AP7354a). AP7354a was diluted at 1:100 dilution. Alexa Fluor 488-conjugated goat anti-rabbit lgG at 1:400 dilution was used as the



secondary antibody (green). Cytoplasmic actin was counterstained with Dylight Fluor® 554 (red) conjugated Phalloidin (red).



Formalin-fixed and paraffin-embedded human testis tissue with PTTG1 Antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Citations

- Pituitary tumor transforming gene: a novel therapeutic target for glioma treatment.

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