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CTDSP1-V250 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8461b

Product Information

Application	WB, IHC-P, E
Primary Accession	Q9GZU7
Other Accession	P58466
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB5996
Calculated MW	29203
Antigen Region	235-261

Additional Information

Gene ID	58190
Other Names	Carboxy-terminal domain RNA polymerase II polypeptide A small phosphatase 1, Nuclear LIM interactor-interacting factor 3, NLI-IF, NLI-interacting factor 3, Small C-terminal domain phosphatase 1, SCP1, Small CTD phosphatase 1, CTDSP1, NIF3, NLIIF, SCP1
Target/Specificity	This CTDSP1-V250 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 235-261 amino acids from the C-terminal region of human CTDSP1-V250.
Dilution	WB~~1:1000 IHC-P~~1:100~500 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	CTDSP1-V250 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CTDSP1

Synonyms	NIF3, NLIIF, SCP1
Function	Preferentially catalyzes the dephosphorylation of 'Ser-5' within the tandem 7 residue repeats in the C-terminal domain (CTD) of the largest RNA polymerase II subunit POLR2A. Negatively regulates RNA polymerase II transcription, possibly by controlling the transition from initiation/capping to processive transcript elongation. Recruited by REST to neuronal genes that contain RE-1 elements, leading to neuronal gene silencing in non-neuronal cells.
Cellular Location	Nucleus. Note=Colocalizes with RNA polymerase II
Tissue Location	Expression is restricted to non-neuronal tissues. Highest expression in skeletal muscle, spleen, lung and placenta

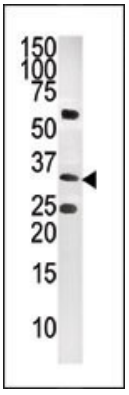
Background

CTDSP1 is a class 2C phosphatase with activity dependent on the conserved DxD motif. Expression of CTDSP1 inhibited activated transcription from several promoter-reporter gene constructs, but expression of a mutant lacking phosphatase activity enhanced transcription. Neuronal gene transcription is repressed in nonneuronal cells by the repressor element-1 (RE1)-silencing transcription factor/neuron-restrictive silencer factor (REST/NRSF; 600571) complex. REST/NRSF recruits SCPs to neuronal genes that contain RE1 elements, leading to neuronal gene silencing in nonneuronal cells. Phosphatase-inactive forms of SCP interfere with REST/NRSF function and promote neuronal differentiation of P19 stem cells. Likewise, small interfering RNA directed to the single Drosophila SCP unmasks neuronal gene expression in S2 cells. Thus, SCP activity is an evolutionarily conserved transcriptional regulator that acts globally to silence neuronal genes.

References

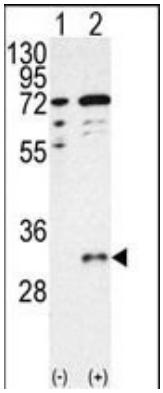
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Fernandes,A.O., Campagnoni,C.W., Kampf,K., Feng,J.M., Handley,V.W. J. Neurosci. Res. 75 (4): 461-471 (2004).
Yeo,M., Lin,P.S., Dahmus,M.E. and Gill,G.N. J. Biol. Chem. 278 (28): 26078-26085 (2003).

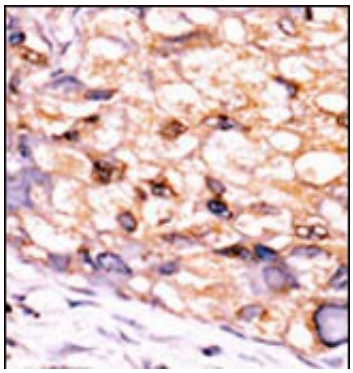
Images



The anti-CTDSP1-V250 (Cat. #AP8461b) is used in Western blot to detect CTDSP1-V250 in CEM tissue lysate.

Western blot analysis of CTDSP1 (arrow) using CTDSP1-V250 Antibody (C-term) (Cat.#AP8461b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the CTDSP1 gene (Lane 2) (Origene Technologies).





Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, 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. BC = breast carcinoma; HC = hepatocarcinoma.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.