10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Phospho-CDC25A(T507) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3051a

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	P30304
Other Accession	P48965, P48964, A7MBD1
Reactivity	Human, Rat, Mouse
Predicted	Mouse, Rat, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	59087
Antigen Region	480-514

Additional Information

Gene ID	993
Other Names	M-phase inducer phosphatase 1, Dual specificity phosphatase Cdc25A, CDC25A
Target/Specificity	This CDC25A Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding T507 of human CDC25A.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	Phospho-CDC25A(T507) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CDC25A
Function	Tyrosine protein phosphatase which functions as a dosage- dependent inducer of mitotic progression (PubMed:12676925, PubMed:14559997,

PubMed:1836978, PubMed:20360007). Directly dephosphorylates CDK1 and stimulates its kinase activity (PubMed:20360007). Also dephosphorylates CDK2 in complex with cyclin-E, in vitro (PubMed:20360007).

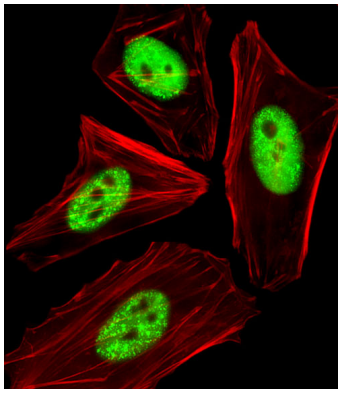
Background

CDC25A is a member of the CDC25 family of phosphatases. CDC25A is required for progression from G1 to the S phase of the cell cycle. It activates the cyclin-dependent kinase CDC2 by removing two phosphate groups. CDC25A is specifically degraded in response to DNA damage, which prevents cells with chromosomal abnormalities from progressing through cell division. CDC25A is an oncogene, although its exact role in oncogenesis has not been demonstrated. Two transcript variants encoding different isoforms have been found for this gene.

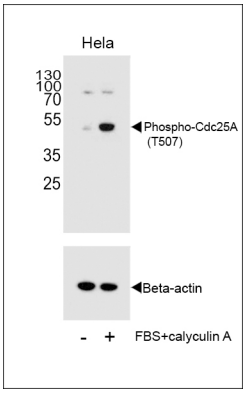
References

Ito, Y., et al., Int. J. Mol. Med. 13(3):431-435 (2004). Nemoto, K., et al., Prostate 58(1):95-102 (2004). Goloudina, A., et al., Cell Cycle 2(5):473-478 (2003). Chen, M.S., et al., Mol. Cell. Biol. 23(21):7488-7497 (2003). Chow, J.P., et al., Mol. Biol. Cell 14(10):3989-4002 (2003).

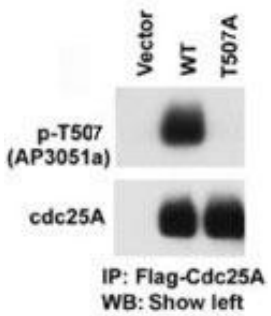
Images



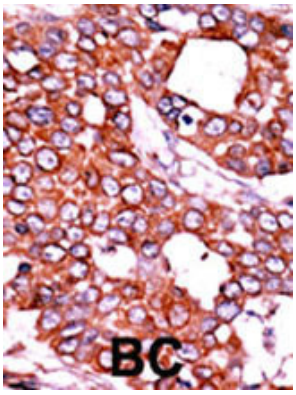
Fluorescent image of HeLa cells stained with Phospho-CDC25A(T507) Antibody(Cat#AP3051A). AP3051A was diluted at 1:25 dilution. An Alexa Fluor 488-conjugated goat anti-rabbit lgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated with Phalloidin (red).



Western blot analysis of extracts from Hela cells, untreated or treated with calyculin A, using Phospho-Cdc25A Antibody (T507).



The anti-Phospho-CDC25A-T507 Pab (Cat. #AP3051a) is used in Western blot to detect Phospho-CDC25A-T507 in cells transfected with wild type or mutant T507 A of CDC25A. Data courtesy of Dr. Tiebang Kang of Washington University, St. Louis, MO.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Citations

- 14-3-3gamma mediates Cdc25A proteolysis to block premature mitotic entry after DNA damage.
- Pro-apoptotic role of Cdc25A: activation of cyclin B1/Cdc2 by the Cdc25A C-terminal domain.

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