

#9529 Store at -20°C

Phospho-cdc25C (Ser198) Antibody


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TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, FC-FP	H	Transfected Only	75	Rabbit	#P30307	995

Product Usage Information

Application

Western Blotting
Flow Cytometry (Fixed/Permeabilized)

Dilution

1:1000
1:25

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Phospho-cdc25C (Ser198) Antibody detects levels of cdc25C only when phosphorylated at Ser198 and only when derived from a transfected DNA construct.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser198 of human cdc25C. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Cdc25 is a protein phosphatase responsible for dephosphorylating and activating cdc2, a crucial step in regulating the entry of all eukaryotic cells into mitosis (1). cdc25C is constitutively phosphorylated at Ser216 throughout interphase by c-TAK1, while phosphorylation at this site is DNA damage-dependent at the G2/M checkpoint (2). When phosphorylated at Ser216, cdc25C binds to members of the 14-3-3 family of proteins, sequestering cdc25C in the cytoplasm and thereby preventing premature mitosis (3). The checkpoint kinases Chk1 and Chk2 phosphorylate cdc25C at Ser216 in response to DNA damage (4,5). During prophase, polo-like kinase 1 (PLK1) phosphorylates cdc25C at Ser198, causing translocation from the cytoplasm to the nucleus, where cdc25C can interact with cdc2/cyclin B to allow for progression through the remaining stages of mitosis (6).

Background References

1. Jessus, C. and Ozon, R. (1995) *Prog. Cell Cycle Res.* 1, 215-228.
2. Peng, C.Y. et al. (1997) *Science* 277, 1501-1505.
3. Kumagai, A. and Dunphy, W.G. (1999) *Genes Dev.* 13, 1067-1072.
4. Blasina, A. et al. (1999) *Curr. Biol.* 9, 1-10.
5. Furnari, B. et al. (1999) *Mol. Biol. Cell* 10, 833-845.
6. Toyoshima-Morimoto, F. et al. (2002) *EMBO Rep.* 3, 341-348.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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