

BACKGROUND

CDC25 is a dual specificity phosphatase with three isoforms in mammalian cells - CDC25A, B and C. CDC25 activates Cdk complexes that control progression through the cell cycle. CDC25 is also involved in the DNA damage checkpoints. Regulation of CDC25 occurs through a variety of mechanisms including phosphorylation, interaction with 14.3.3 proteins, subcellular localization and protein degradation.¹ CDC25B is phosphorylated and activated by aurora kinase A at the start of mitosis, and as mitosis progresses is then further phosphorylated in an auto-amplification loop, along with CDC25C, by the CDK1/cyclin B complex. Cdc25C is also phosphorylated during mitosis by PLK1, leading to greater activity of the CDK1/cyclin B complex. Similarly, CDC25A acts during the G1/S phase of the cell cycle in concert with the CDK2/cyclin E complex. Both CDC25A and CDC25B can be activated by the DNA damage checkpoint kinase, Chk1 and thereby inhibit mitosis.²

CDC25C is highly conserved during evolution and it plays a key role in the regulation of cell division. It is a tyrosine phosphatase and directs dephosphorylation of cyclin B-bound CDC2 and triggers entry into mitosis.³ It is also thought to suppress p53-induced growth arrest. Multiple alternatively spliced transcript variants of this gene have been described.

References:

1. Turowski, P. et al: Mol. Biol. Cell 14: 2984-98, 2003
2. Zwicker, J. et al: EMBO J. 14:4514-22, 1995
3. Mitra, J. & Schultz, R.M.: J. Cell Sci. 109:2407-2415, 1996

TECHNICAL INFORMATION

Source:

CDC25C Antibody is a mouse monoclonal antibody raised against recombinant human CDC25C fragments expressed in *E. coli*.

Specificity and Sensitivity:

This antibody detects endogenous CDC25C proteins without cross-reactivity with other family members.

Storage Buffer: PBS and 30% glycerol

Storage:

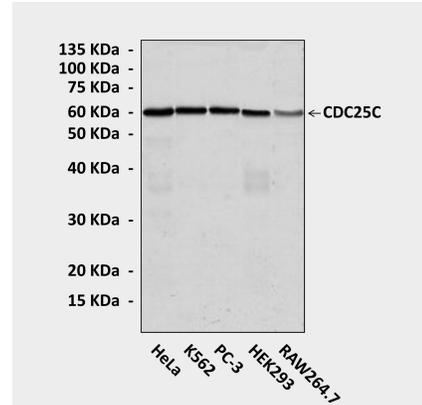
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

| Application: | *Dilution: |
|--------------|------------|
| WB | 1:1000 |
| IP | n/d |
| IHC | n/d |
| ICC | n/d |
| FACS | n/d |

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Western Blot detection of CDC25C proteins in various cell lysates using CDC25C Antibody.

