

#3673 Store at -20°C

Cdc45 Antibody

✓ 100 µl
(10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R, Mk	65 kDa	Rabbit**

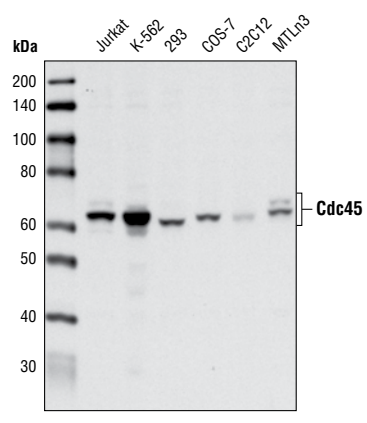
Background: The initiation of DNA replication in mammalian cells is a highly coordinated process that ensures duplication of the genome only once per cell division cycle. Origins of replication are dispersed throughout the genome and their activities are regulated via the sequential binding of pre-replication and replication factors. The origin recognition complex (ORC) is thought to bind to chromatin throughout the cell cycle (1,2). The pre-replication complex (Pre-RC) forms in late mitosis/early G1 phase with the binding of CDT1 and cdc6 to the origin, which allows binding of the heterohexameric MCM2-7 complex. The MCM complex is thought to be the replicative helicase and formation of the pre-RC is referred to as chromatin licensing. Subsequent initiation of DNA replication requires the activation of the S-phase promoting kinases cdk2 and cdc7. Cdc7 phosphorylates MCM proteins bound to chromatin and, in conjunction with CDT1, recruits the replication factor cdc45 (3-5). Cdc45 is required for formation of pre-initiation complexes at the G1/S transition and for activation of replication origins. The level of cdc45 protein expression is associated with the proliferative status of the cell or tissue. Terminally differentiated and senescent cells lack cdc45 and highly proliferative cell lines express high levels of cdc45 (6).

Specificity/Sensitivity: Cdc45 Antibody recognizes endogenous levels of total cdc45 protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the carboxy terminus of human cdc45 protein. Antibodies are purified using protein A and peptide affinity chromatography.

Background References:

- (1) Okuno, Y. et al. (2001) *EMBO J* 20, 4263-77.
- (2) McNairn, A.J. et al. (2005) *Exp Cell Res* 308, 345-56.
- (3) Bell, S.P. and Dutta, A. (2002) *Annu Rev Biochem* 71, 333-74.
- (4) Tsuji, T. et al. (2006) *Mol Biol Cell* 17, 4459-72.
- (5) Ballabeni, A. et al. (2009) *J Biol Chem* 284, 3028-36.
- (6) Pollok, S. et al. (2007) *FEBS J* 274, 3669-84.



Western blot analysis of extracts from various cell types using Cdc45 Antibody.

Entrez-Gene ID #8318
Swiss-Prot Acc. #075419

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.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

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

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.