Revision 1

#8759 Store at -20C

CAND1 (D1F2) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Mk	Endogenous	130	Rabbit IgG	#Q86VP6	55832

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

CAND1 (D1F2) Rabbit mAb recognizes endogenous levels of total CAND1 protein. Based upon sequence alignment, this antibody is not predicted to cross-react with CAND2/TIP120B.

Species predicted to react based on 100% sequence homology:

Chicken, Dog, Pig, Guinea Pig

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala561 of human CAND1 protein.

Background

Cullin-associated and neddylation-dissociated (CAND1)/TIP120A is a protein containing multiple HEAT repeats. It functions, in part, as an inhibitor of multiple cullin-RING ubiquitin ligases (CRLs) via binding to cullin-RBX complexes that are both unconjugated to NEDD8 and lack association with substrate recognition subunits (1-3). Indeed, CAND1 has been shown to bind all cullin family members in human cells and analysis of the crystal structure of human CAND1 bound to the CUL1-RBX1 complex suggests that CAND1 inhibits the activity of CRLs by sterically blocking both the substrate recognition subunit binding site and the NEDD8 conjugation site (1,3,4). Conversely, CAND1 binding to cullin-RBX complexes is incompatible with neddylation as NEDD8 conjugated to cullins blocks CAND1 binding, suggesting that CAND1 binds to cullins only after the COP9 signalosome has catalyzed cullin deneddylation. Through its ability to negatively regulate CRL assembly, CAND1 plays an integral part in facilitating CRL activation cycles that allow CRLs to utilize distinct substrate recognition subunits and protects these subunits from undergoing ubiquitin-dependent degradation (5-7).

Background References

1. Liu, J. et al. (2002) *Mol Cell* 10, 1511-8.
2. Zheng, J. et al. (2002) *Mol Cell* 10, 1519-26.
3. Min, K.W. et al. (2003) *J Biol Chem* 278, 15905-10.
4. Goldenberg, S.J. et al. (2004) *Cell* 119, 517-28.
5. Wee, S. et al. (2005) *Nat Cell Biol* 7, 387-91.
6. Wu, J.T. et al. (2005) *Nat Cell Biol* 7, 1014-20.
7. Cope, G.A. and Deshaies, R.J. (2006) *BMC Biochem* 7, 1.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

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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