

DDB-1 (D4C8) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	127	Rabbit IgG	#Q16531	1642

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

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

DDB-1 (D4C8) Rabbit mAb recognizes endogenous levels of total DDB-1 protein.

Species predicted to react based on 100% sequence homology

Chicken, Bovine

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly832 of human DDB-1 protein.

Background

Damaged DNA-Binding Protein (DDB) consists of a 127 kDa subunit (DDB-1) and a 48 kDa subunit (DDB-2) that contribute to the formation of the UV-damaged DNA-binding protein complex (UV-DDB) (1-3). In conjunction with CUL4A and ROC-1, the UV-DDB complex forms an E3 ubiquitin ligase that recognizes a broad spectrum of DNA lesions such as cyclobutane pyrimidine dimers, 6-4 photoproducts, apurinic sites and short mismatches. The complex polyubiquitinates components of the nucleotide excision repair pathway (4-6). Loss of DDB activity has been identified in a subset of xeroderma pigmentosum complementation group E (XP-E) patients and has been linked to the deficient repair of cyclobutane pyrimidine dimers in cells derived from these patients (7-10). DDB-1 is a relatively abundant protein that is vital for normal cell function and is evolutionarily conserved in mammals, insects, worms and plants. Unlike DDB-2, lesions in DDB-1 have yet to be identified in XP-E patients. In association with ROC-1 and CUL4A, DDB-1 functions to recruit substrate-specific targeting subunits, generally known as DCAFs or CDWs, to CUL4-RING E3 ubiquitin-protein ligase complexes (11,12). Ubiquitination of histone H2A, histone H3 and histone H4 at sites of UV-induced DNA damage by the DDB1-DDB2-CUL4A-ROC1 E3 ubiquitin-protein ligase complex may facilitate their removal from the nucleosome in order to promote DNA repair (13-15). DDB-1, in association with other CUL4-based E3 ligase complexes, has also been found to be a regulator of mTOR signaling (16,17).

Background References

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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

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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