Revision 1

Store at -20C

#13525

Rad23B (D4W7F) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H Mk	Endogenous	53	Rabbit IgG	#P54727	5887

Product Usage Information

Application	Dilution
Western Blotting	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

Rad23B (D4W7F) Rabbit mAb recognizes endogenous levels of total Rad23B protein. This antibody does not cross-react with Rad23A protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala140 of human Rad23B protein.

Background

The yeast nucleotide excision repair (NER) radiation sensitive protein 23 (rad23) and its human homologs Rad23A (hHR23A) and Rad23B (hHR23B) are critical components of the cellular machinery that recognize DNA lesions and serve as receptors that target ubiquitinated substrates to the proteasome for degradation (1).
The UV excision repair protein Rad23B is a multi-domain scaffold protein that plays an important role in ubiquitin-dependent proteasomal degradation. Rad23B contains an amino-terminal ubiquitin-like (UbL) domain that facilitates interaction with the S5a/PSMD4 subunit of the proteasome 19S regulatory complex (2,3). In addition, Rad23B contains a central ubiquitin-associated domain (UBA1) and a carboxy-terminal UBA2 domain, which bind mono- and polyubiquitin with distinct specificities (4). Research studies demonstrate that Rad23B binds specifically to K48-ubiquitinated proteins to facilitate recruitment of target proteins to the proteasome (5). Between the paired UBA domains, Rad23B contains an XPC-binding domain that facilitates binding to XPC and recruitment to DNA lesions (6), as well as the binding of peptide:N-glycanase that is critical for recruitment of ubiquitinated ERAD substrates to the proteasome (7). Research studies have shown that targeted deletion of the murine *Rad23b* locus impairs embryonic development, suggesting that Rad23B is essential for mammalian development (8).

Background References

1. Verma, R. et al. (2004) *Cell* 118, 99-110.
2. Ryu, K.S. et al. (2003) *J Biol Chem* 278, 36621-7.
3. Walters, K.J. et al. (2003) *Proc Natl Acad Sci U S A* 100, 12694-9.
4. Raasi, S. et al. (2005) *Nat Struct Mol Biol* 12, 708-14.
5. Nathan, J.A. et al. (2013) *EMBO J* 32, 552-65.
6. Masutani, C. et al. (1994) *EMBO J* 13, 1831-43.
7. Lee, J.H. et al. (2005) *Proc Natl Acad Sci U S A* 102, 9144-9.
8. Ng, J.M. et al. (2002) *Mol Cell Biol* 22, 1233-45.

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 **Mk:** Monkey

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Limited Uses

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