Revision 1

Store at -20C

#24555

Rad23A (D7U7Z) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R Mk	Endogenous	52	Rabbit IgG	#P54725	5886

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

Rad23A (D7U7Z) Rabbit mAb recognizes endogenous levels of total Rad23A protein. This antibody does not cross-react with Rad23B.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gln214 of human Rad23A 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 Rad23A is a multi-domain scaffold protein that plays an important role in ubiquitin-dependent proteasomal degradation. Rad23A protein contains an amino-terminal ubiquitin-like (UBL) domain and two ubiquitin binding domains, UBA1 and UBA2, that flank an XPC binding domain (2). Rad23A is thought to form a closed conformation that is dictated by an intramolecular interaction between the UBL and UBA domains. Binding of the Rad23A UBL domain to the S5a/PSMD4 subunit of the proteasome lid disrupts the intramolecular UBL-UBA association within Rad23A and promotes its association with the proteasome (3). Research studies show that Rad23A can be recruited to the proteasome through an interaction between its UBL domain and the S2/PSMD2 proteasome subunit (4). The UBA domains of Rad23A bind mono- and polyubiquitin and are thought to shuttle proteins modified with Lys48-linked polyubiquitin chains to the proteasome for degradation (1,5-7). In addition to its role as an ubiquitin-binding protein, Rad23A also participates in nucleotide excision repair (NER) by binding and stabilizing the NER DNA binding protein XPC (2,8).

Background References

1. Verma, R. et al. (2004) *Cell* 118, 99-110.
2. Masutani, C. et al. (1994) *EMBO J* 13, 1831-43.
3. Walters, K.J. et al. (2003) *Proc Natl Acad Sci U S A* 100, 12694-9.
4. Elsasser, S. et al. (2002) *Nat Cell Biol* 4, 725-30.
5. Raasi, S. et al. (2005) *Nat Struct Mol Biol* 12, 708-14.
6. Nathan, J.A. et al. (2013) *EMBO J* 32, 552-65.
7. Elsasser, S. et al. (2004) *J Biol Chem* 279, 26817-22.
8. Ng, J.M. et al. (2003) *Genes Dev* 17, 1630-45.

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

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

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

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