SANTA CRUZ BIOTECHNOLOGY, INC.

Rad23A (D-6): sc-365669

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mammalian cells express two Rad23 (genome repair protein) homologs, Rad23A (also designated HR23A) and Rad23B (also designated HR23B). In typical cells, mouse Rad23B is approximately ten times more abundant than mouse Rad23A. Endogenous XPC (xeroderma pigmentosum C protein) located in wildtype mouse embryonic fibroblasts is relatively stable; its steady-state level and stability appear to be significantly reduced by a targeted interruption of the mouse Rad23B gene, but not by that of mouse Rad23A. Loss of both mouse Rad23 genes causes a strong further reduction of the XPC protein level. The RAD23 genes (RAD23A and RAD23B), which encode the human Rad23 proteins, are crucial for excision-repair of UV-damaged DNA. RAD23 genes resemble the other DNA repair genes, RAD2, RAD6, RAD7, RAD18 and RAD54, all of which also exhibit increased transcription in response to DNA damage and during meiosis. Rad23 is a nuclear protein containing an ubiquitin-like domain required for biological functions. The protein, which is highly conserved, is involved in nucleotide excision repair (NER) that associates with the proteasome via its N-terminus. The C-terminal ubiquitin-associated domain of Rad23 is evolutionarily conserved from yeast to humans. Rad23 may also act as a regulator for the activity of the 26S Proteasome.

REFERENCES

1. Elder, R.T., et al. 2002. Involvement of rhp23, a *Schizosaccharomyces pombe* homolog of the human hHR23A and *Saccharomyces cerevisiae* Rad23 nucleotide excision repair genes, in cell cycle control and protein ubiquitination. Nucleic Acids Res. 30: 581-591.
2. Ng, J.M., et al. 2003. A novel regulation mechanism of DNA repair by damage-induced and Rad23-dependent stabilization of xeroderma pigmentosum group C protein. Genes Dev. 17: 1630-1645.
3. Wang, Q., et al. 2003. Ubiquitin recognition by the DNA repair protein hHR23A. Biochemistry 42: 13529-13535.

CHROMOSOMAL LOCATION

Genetic locus: RAD23A (human) mapping to 19p13.2.

SOURCE

Rad23A (D-6) is a mouse monoclonal antibody raised against amino acids 81-167 mapping within an internal region of Rad23A of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rad23A (D-6) is available conjugated to agarose (sc-365669 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365669 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365669 PE), fluorescein (sc-365669 FITC), Alexa Fluor® 488 (sc-365669 AF488), Alexa Fluor® 546 (sc-365669 AF546), Alexa Fluor® 594 (sc-365669 AF594) or Alexa Fluor® 647 (sc-365669 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365669 AF680) or Alexa Fluor® 790 (sc-365669 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

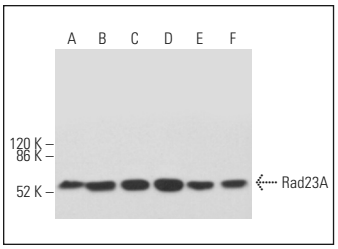
Rad23A (D-6) is recommended for detection of Rad23A of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Rad23A siRNA (h): sc-61435, Rad23A shRNA Plasmid (h): sc-61435-SH and Rad23A shRNA (h) Lentiviral Particles: sc-61435-V.

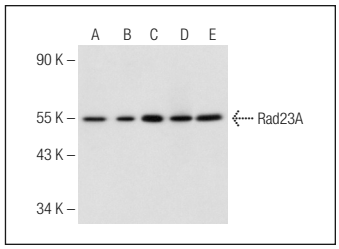
Molecular Weight of Rad23A: 40 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, HeLa whole cell lysate: sc-2200 or SHP-77 whole cell lysates: sc-364258.

DATA



Rad23A (D-6): sc-365669. Western blot analysis of Rad23A expression in HeLa (**A**), HL-60 (**B**), K-562 (**C**), Jurkat (**D**), Raji (**E**) and A-431 (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Rad23A (D-6): sc-365669. Western blot analysis of Rad23A expression in HeLa (**A**), Jurkat (**B**), K-562 (**C**) and HL-60 (**D**) nuclear extracts and SHP-77 whole cell lysate (**E**).

SELECT PRODUCT CITATIONS

1. Singh, R.K. and Dagnino, L. 2016. E2F1 interactions with hHR23A inhibit its degradation and promote DNA repair. Oncotarget 7: 26275-26292.
2. Wang, Y., et al. 2017. Identifying the ubiquitination targets of E6AP by orthogonal ubiquitin transfer. Nat. Commun. 8: 2232.
3. Huang, B., et al. 2022. Activation of E6AP/UBE3A-mediated protein ubiquitination and degradation pathways by a cyclic γ-AA peptide. J. Med. Chem. E-published.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.