

Rad23B (M-120): sc-67226

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.
4. Kamionka, M. and Feigon, J. 2004. Structure of the XPC binding domain of hHR23A reveals hydrophobic patches for protein interaction. *Protein Sci.* 13: 2370-2377.
5. Okuda, Y., et al. 2004. Relative levels of the two mammalian Rad23 homologs determine composition and stability of the xeroderma pigmentosum group C protein complex. *DNA Repair* 3: 1285-1295.
6. Hsieh, H.C., et al. 2005. hHR23A, a human homolog of *Saccharomyces cerevisiae* Rad23, regulates xeroderma pigmentosum C protein and is required for nucleotide excision repair. *Biochem. Biophys. Res. Commun.* 335: 181-187.

CHROMOSOMAL LOCATION

Genetic locus: RAD23B (human) mapping to 9q31.2; Rad23b (mouse) mapping to 4 B3.

SOURCE

Rad23B (M-120) is a rabbit polyclonal antibody raised against amino acids 77-196 mapping within an internal region of Rad23B of mouse origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Rad23B (M-120) is recommended for detection of Rad23B of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, 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).

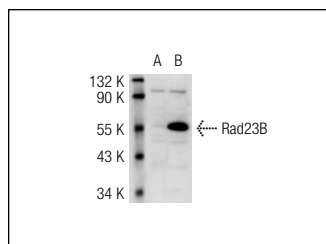
Molecular Weight of Rad23B: 55 kDa.

Positive Controls: Rad23B (m): 293T Lysate: sc-125881.

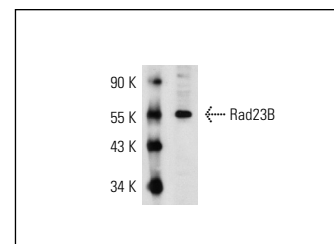
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Rad23B (M-120): sc-67226. Western blot analysis of Rad23B expression in non-transfected: sc-117752 (A) and mouse Rad23B transfected: sc-125881 (B) 293T whole cell lysates.



Rad23B (M-120): sc-67226. Western blot analysis of Rad23B expression in HeLa whole cell lysate.

STORAGE

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



Try **Rad23B (H-8): sc-137088** or **Rad23B (C-4): sc-166507**, our highly recommended monoclonal alternatives to Rad23B (M-120).