SANTA CRUZ BIOTECHNOLOGY, INC.

Rad23A siRNA (m): sc-61436

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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

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7. Kim, B., et al. 2005. Solution structure and backbone dynamics of the XPC-binding domain of the human DNA repair protein hHR23B. FEBS J. 272: 2467-2476.
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CHROMOSOMAL LOCATION

Genetic locus: Rad23a (mouse) mapping to 8 C3.

PRODUCT

Rad23A siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rad23A shRNA Plasmid (m): sc-61436-SH and Rad23A shRNA (m) Lentiviral Particles: sc-61436-V as alternate gene silencing products.

For independent verification of Rad23A (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61436A, sc-61436B and sc-61436C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Rad23A siRNA (m) is recommended for the inhibition of Rad23A expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rad23A gene expression knockdown using RT-PCR Primer: Rad23A (m)-PR: sc-61436-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.