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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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SANTA CRUZ BIOTECHNOLOGY, INC.

MDC1 siRNA (h): sc-43917

BACKGROUND

MDC1, also designated nuclear factor with BRCT domains protein 1 (NFBD1), participates in the early response to DNA damage. It is involved in promoting recruitment of repair proteins to the site of DNA breaks and controls damage-induced cell-cycle arrest checkpoints. The nuclear protein is a member of the BRCT (BRCA1 C-terminus) super family of nuclear proteins. It contains an N-terminus forkhead-associated (FHA) motif, 2 C-terminus BRCT motifs and 13 internal repetitions of a 41 amino acid sequence.

REFERENCES

1. Bradbury, J.M., et al. 2003. The complex matter of DNA double-strand break detection. Biochem. Soc. Trans. 31: 40-44.
2. Goldberg, M., et al. 2003. MDC1 is required for the intra-S-phase DNA damage checkpoint. Nature 421: 952-956.
3. Lou, Z., et al. 2003. MDC1 is coupled to activated CHK2 in mammalian DNA damage response pathways. Nature 421: 957-961.
4. Stewart, G.S., et al. 2003. MDC1 is a mediator of the mammalian DNA damage checkpoint. Nature 421: 961-966.
5. d'Adda Di Fagagna, F., et al. 2003. A DNA damage checkpoint response in telomere-initiated senescence. Nature 426:194-198.
6. Lou, Z., et al. 2003. Mediator of DNA damage checkpoint protein 1 regulates BRCA1 localization and phosphorylation in DNA damage checkpoint control. J. Biol. Chem. 278: 13599-13602.
7. Xu, X., et al. 2003. NFBD1/MDC1 regulates ionizing radiation-induced focus formation by DNA checkpoint signaling and repair factors. FASEB J. 17: 1842-1848.
8. Mochan, T.A., et al. 2003. 53BP1 and NFBD1/MDC1-Nbs1 function in parallel interacting pathways activating Ataxia-telangiectasia mutated (ATM) in response to DNA damage. Cancer Res 63: 8586-8591.
9. Xu, X., et al. 2004. Microcephalin is a DNA damage response protein involved in regulation of Chk1 and BRCA1. J. Biol. Chem. 279: 34091-34094.

CHROMOSOMAL LOCATION

Genetic locus: MDC1 (human) mapping to 6p21.33.

PRODUCT

MDC1 siRNA (h) is a pool of 2 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 MDC1 shRNA Plasmid (h): sc-43917-SH and MDC1 shRNA (h) Lentiviral Particles: sc-43917-V as alternate gene silencing products.

For independent verification of MDC1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-43917A and sc-43917B.

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

MDC1 siRNA (h) is recommended for the inhibition of MDC1 expression in human 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 MDC1 gene expression knockdown using RT-PCR Primer: MDC1 (h)-PR: sc-43917-PR (20 µl, 448 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Belgnaoui, S.M., et al. 2010. The viral oncoprotein tax sequesters DNA damage response factors by tethering MDC1 to chromatin. J. Biol. Chem. 285: 32897-32905.

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.