

XAB1 siRNA (h): sc-94614

BACKGROUND

XAB1 (XPA binding protein 1), also known as MBDIN, NTPBP, ATPBD1A or HUSSY-23, is a 374 amino acid cytoplasmic protein that is involved in protein synthesis events. Expressed ubiquitously with highest expression in testis, XAB1 binds to the RNA polymerase II (Pol II)-associated proteins RPA1-3 and to XPA (a protein involved in DNA repair mechanisms), thereby forming an interface with Pol II. Via this interaction, XAB1 is thought to mediate the involvement of Pol II in both protein complex formation and protein chaperone/ scaffolding activities. In addition, XAB1 interacts with components of the integrator and molecular chaperone complexes, further implicating XAB1 in protein assembly. XAB1 contains a cluster of acidic amino acids in its C-terminal region and a series of sequences similar to those found in GTP-binding proteins in its N-terminal region, suggesting that XAB1 has possible GTPase activity.

REFERENCES

1. Nitta, M., et al. 2000. A novel cytoplasmic GTPase XAB1 interacts with DNA repair protein XPA. *Nucleic Acids Res.* 28: 4212-4218.
2. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611479. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Lembo, F., et al. 2003. MBDin, a novel MBD2-interacting protein, relieves MBD2 repression potential and reactivates transcription from methylated promoters. *Mol. Cell. Biol.* 23: 1656-1665.
4. Angrisano, T., et al. 2006. TACC3 mediates the association of MBD2 with histone acetyltransferases and relieves transcriptional repression of methylated promoters. *Nucleic Acids Res.* 34: 364-372.
5. Jeronimo, C., et al. 2007. Systematic analysis of the protein interaction network for the human transcription machinery reveals the identity of the 7SK capping enzyme. *Mol. Cell* 27: 262-274.
6. Gras, S., et al. 2007. Structural insights into a new homodimeric self-activated GTPase family. *EMBO Rep.* 8: 569-575.

CHROMOSOMAL LOCATION

Genetic locus: GPN1 (human) mapping to 2p23.2.

PRODUCT

XAB1 siRNA (h) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see XAB1 shRNA Plasmid (h): sc-94614-SH and XAB1 shRNA (h) Lentiviral Particles: sc-94614-V as alternate gene silencing products.

For independent verification of XAB1 (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-94614A, sc-94614B and sc-94614C.

RESEARCH USE

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

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCL, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

XAB1 siRNA (h) is recommended for the inhibition of XAB1 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

XAB1 (B-4): sc-365865 is recommended as a control antibody for monitoring of XAB1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor XAB1 gene expression knockdown using RT-PCR Primer: XAB1 (h)-PR: sc-94614-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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