

# Abin-2 siRNA (h): sc-44638

## BACKGROUND

The nuclear factor NFκB is essential for the regulation of immune response genes, inflammatory processes and apoptosis. Abin-2 (also designated A20-binding inhibitor of NFκB activation 2) is an intracellular zinc-finger protein that inhibits the expression of NFκB by recruiting a chromatin-remodeling complex to the target gene. Abin-2, a p105-associated protein, is a potent inhibitor of TNF-induced cell death. Abin-2 can also associate with TPL-2, and in endogenous tissues it is frequently associated with both TPL-2 and p105. siRNA depletion of Abin-2 has been found to reduce levels of TPL-2 but not of p105, which indicates that Abin-2 is involved in the TLR4 signaling pathway. Abin-2 inhibits endothelial apoptosis, but upon deletion of the carboxy-terminus of the protein, its ability to inhibit apoptosis is removed.

## REFERENCES

1. Wu, W.S., et al. 2002. The promyelocytic leukemia protein represses A20-mediated transcription. *J. Biol. Chem.* 277: 31734-31739.
2. Tadros, A., et al. 2003. Abin-2 protects endothelial cells from death and has a role in the antiapoptotic effect of angiopoietin-1. *Blood* 102: 4407-4409.
3. Hughes, D.P., et al. 2003. The anti-inflammatory endothelial tyrosine kinase Tie2 interacts with a novel NFκB inhibitor Abin-2. *Circ. Res.* 92: 630-636.
4. Chien, C.Y., et al. 2003. The A20-binding protein Abin-2 exerts unexpected function in mediating transcriptional coactivation. *FEBS Lett.* 543: 55-60.

## CHROMOSOMAL LOCATION

Genetic locus: TNIP2 (human) mapping to 4p16.3.

## PRODUCT

Abin-2 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Abin-2 shRNA Plasmid (h): sc-44638-SH and Abin-2 shRNA (h) Lentiviral Particles: sc-44638-V as alternate gene silencing products.

For independent verification of Abin-2 (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-44638A, sc-44638B and sc-44638C.

## 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

Abin-2 siRNA (h) is recommended for the inhibition of Abin-2 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.

## GENE EXPRESSION MONITORING

Abin-2 (H-8): sc-271850 is recommended as a control antibody for monitoring of Abin-2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 Abin-2 gene expression knockdown using RT-PCR Primer: Abin-2 (h)-PR: sc-44638-PR (20 μl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Choi, Y., et al. 2019. Severe fever with thrombocytopenia syndrome phlebovirus non-structural protein activates TPL2 signalling pathway for viral immunopathogenesis. *Nat. Microbiol.* 4: 429-437.
2. Lou, Y. and Huang, Z. 2020. microRNA-15a-5p participates in sepsis by regulating the inflammatory response of macrophages and targeting TNIP2. *Exp. Ther. Med.* 19: 3060-3068.
3. Zhou, F., et al. 2020. Role of microRNA-15a-5p/TNFAIP3-interacting protein 2 axis in acute lung injury induced by traumatic hemorrhagic shock. *Exp. Ther. Med.* 20: 2.

## RESEARCH USE

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