SANTA CRUZ BIOTECHNOLOGY, INC.

XAP2 siRNA (m): sc-63335

BACKGROUND

The Aryl hydrocarbon receptor (AhR), also designated dioxin receptor (DR), a ligand-activated transcription factor, becomes activated upon binding of dioxins or structurally related forms of xenobiotics. Upon ligand binding, AhR translocates from the cytoplasm to the nucleus where it complexes with Arnt to form a DNA binding heterodimer. This complex activates transcription of target genes involved in xenobiotic metabolism. Until ligand binding occurs, AhR remains latent in the cytoplasm, which is maintained by its association with the molecular chaperones HSP 90, the hepatitis B virus X-associated protein (XAP2, also designated AIP and ARA9) and the heat shock protein p23. XAP2, a ubiquitously expressed protein, binds to HSP 90 and AhR through a highly conserved carboxy-terminal tetraticopeptide repeat domain. XAP2 participates in stabilizing AhR as well as enhancing the cytoplasmic localization of the receptor. It may also be involved in regulating the degradation of AhR.

REFERENCES

1. Meyer, B.K., et al. 1998. Hepatitis B virus X-associated protein 2 is a subunit of the unliganded Aryl hydrocarbon receptor core complex and exhibits transcriptional enhancer activity. Mol. Cell. Biol. 18: 978-988.
2. Carver, L.A., et al. 1998. Characterization of the Ah receptor-associated protein, ARA9. J. Biol. Chem. 273: 33580-33587.
3. Kazlauskas, A., et al. 2000. The immunophilin-like protein XAP2 regulates ubiquitination and subcellular localization of the dioxin receptor. J. Biol. Chem. 275: 41317-41324.
4. Kazlauskas, A., et al. 2002. Two distinct regions of the immunophilin-like protein XAP2 regulate dioxin receptor function and interaction with HSP 90. J. Biol. Chem. 277: 11795-11801.
5. Lees, M.J., et al. 2002. Effect of ARA9 on dioxin receptor mediated transcription. Toxicology 181-182: 143-146.
6. Petrulis, J.R., et al. 2002. The role of chaperone proteins in the Aryl hydrocarbon receptor core complex. Chem. Biol. Interact. 141: 25-40.

CHROMOSOMAL LOCATION

Genetic locus: Aip (mouse) mapping to 19 A.

PRODUCT

XAP2 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 XAP2 shRNA Plasmid (m): sc-63335-SH and XAP2 shRNA (m) Lentiviral Particles: sc-63335-V as alternate gene silencing products.

For independent verification of XAP2 (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-63335A, sc-63335B and sc-63335C.

PROTOCOLS

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

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

XAP2 siRNA (m) is recommended for the inhibition of XAP2 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.

GENE EXPRESSION MONITORING

XAP2 (35-2): sc-59730 is recommended as a control antibody for monitoring of XAP2 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 XAP2 gene expression knockdown using RT-PCR Primer: XAP2 (m)-PR: sc-63335-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.