SANTA CRUZ BIOTECHNOLOGY, INC.

Jumonji siRNA (h): sc-60872

BACKGROUND

Jumonji, a nuclear protein crucial for neural tube formation, plays an important role in downregulating atrial natriuretic factor (ANF) gene expression through its interaction with GATA-4 and NKX2-5. Required for normal development of the heart, Jumonji participates in negatively regulating the signaling involved in cell proliferation. Jumonji, also designated ARID domain-containing protein 2, is a member of the JMJ transcription factor family of proteins. During emryogenesis Jumonji, which localizes to the nucleus, is expressed primarily in neurons, especially dorsal root ganglion cells.

REFERENCES

1. Berge-Lefranc, J.L., et al. 1996. Characterization of the human Jumonji gene. Hum. Mol. Genet. 5: 1637-1641.
2. Kim, T.G., et al. 2004. Jumonji represses atrial natriuretic factor gene expression by inhibiting transcriptional activities of cardiac transcription factors. Mol. Cell. Biol. 24: 10151-10160.
3. Jung, J., et al. 2005. Jumonji regulates cardiomyocyte proliferation via interaction with retinoblastoma protein. J. Biol. Chem. 280: 30916-30923.
4. Kim, T.G., et al. 2005. Jumonji represses α-cardiac myosin heavy chain expression via inhibiting MEF2 activity. Biochem. Biophys. Res. Commun. 329: 544-553.
5. Jensen, L.R., et al. 2005. Mutations in the JARID1C gene, which is involved in transcriptional regulation and chromatin remodeling, cause X-linked mental retardation. Am. J. Hum. Genet. 76: 227-236.
6. Jung, J., et al. 2005. Roles of Jumonji in mouse embryonic development. Dev. Dyn. 232: 21-32.

CHROMOSOMAL LOCATION

Genetic locus: JARID2 (human) mapping to 6p22.3.

PRODUCT

Jumonji 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 Jumonji shRNA Plasmid (h): sc-60872-SH and Jumonji shRNA (h) Lentiviral Particles: sc-60872-V as alternate gene silencing products.

For independent verification of Jumonji (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-60872A, sc-60872B and sc-60872C.

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

Jumonji siRNA (h) is recommended for the inhibition of Jumonji 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 Jumonji gene expression knockdown using RT-PCR Primer: Jumonji (h)-PR: sc-60872-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. Paccez, J.D., et al. 2019. Dihydroartemisinin inhibits prostate cancer via JARID2/miR-7/miR-34a-dependent downregulation of Axl. Oncogenesis 8: 14.

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.