SANTA CRUZ BIOTECHNOLOGY, INC.

G3BP2 siRNA (h): sc-89231

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The Power to Question

BACKGROUND

G3BP2 (GTPase activating protein (SH3 domain) binding protein 2) is a 482 amino acid protein that localizes to the cytoplasm and contains one NTF2 domain and one RRM domain. Existing as two alternatively spliced isoforms, G3BP2 acts as a scaffold protein that is thought to be involved in mRNA transport and is subject to post-translational methylation on select arginine residues. The gene encoding G3BP2 maps to human chromosome 4q21.1, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

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3. French, J., et al. 2002. The expression of Ras-GTPase activating protein SH3 domain-binding proteins, G3BPs, in human breast cancers. Histochem. J. 34: 223-231.
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5. Wu, C., et al. 2007. Systematic identification of SH3 domain-mediated human protein-protein interactions by peptide array target screening. Proteomics 7: 1775-1785.
6. Stack, E.C., et al. 2007. Neuroprotective effects of synaptic modulation in Huntington's disease R6/2 mice. J. Neurosci. 27: 12908-12915.
7. Versteegh, F.G., et al. 2007. Growth hormone analysis and treatment in Ellis-van Creveld syndrome. Am. J. Med. Genet. A 143A: 2113-2121.

CHROMOSOMAL LOCATION

Genetic locus: G3BP2 (human) mapping to 4q21.1.

PRODUCT

G3BP2 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 G3BP2 shRNA Plasmid (h): sc-89231-SH and G3BP2 shRNA (h) Lentiviral Particles: sc-89231-V as alternate gene silencing products.

For independent verification of G3BP2 (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-89231A, sc-89231B and sc-89231C.

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

G3BP2 siRNA (h) is recommended for the inhibition of G3BP2 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 G3BP2 gene expression knockdown using RT-PCR Primer: G3BP2 (h)-PR: sc-89231-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.

PROTOCOLS

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