SANTA CRUZ BIOTECHNOLOGY, INC.

APBA2BP siRNA (h): sc-72511

BACKGROUND

APBA2BP (β-Amyloid A4 protein-binding family A member 2-binding protein), also known as NECAB3 (N-terminal EF-hand calcium-binding protein 3), NIP1, SYTIP2 or XB51, is a 396 amino acid protein that localizes to the perinuclear region of the cytoplasm and contains one calcium binding EF-hand domain and one ABM domain. Highly expressed in skeletal muscle and heart with lower expression in pancreas and brain, APBA2BP functions to interact with and inhibit the association of X11β with the β-Amyloid precursor protein, thereby allowing the formation of mature β-Amyloid via a non-competitive mechanism. Due to its role in β-Amyloid production, APBA2BP is thought to be an essential factor in β-Amyloid regulatory events and may contribute to the pathogenesis of Alzheimer's disease. Three isoforms of APBA2BP exist as a result of alternative splicing events.

REFERENCES

1. Büssow, K., et al. 1998. A method for global protein expression and antibody screening on high-density filters of an arrayed cDNA library. Nucleic Acids Res. 26: 5007-5008.
2. Sugita, S. and Südhof, T.C. 2000. Specificity of Ca^{2+}-dependent protein interactions mediated by the C2A domains of synaptotagmins. Biochemistry 39: 2940-2949.
3. Lee, D.S., et al. 2000. Regulation of X11L-dependent amyloid precursor protein metabolism by XB51, a novel X11L-binding protein. J. Biol. Chem. 275: 23134-23138.
4. Sugita, S., et al. 2002. NECABs: a family of neuronal Ca^{2+}-binding proteins with an unusual domain structure and a restricted expression pattern. Neuroscience 112: 51-63.
5. Sumioka, A., et al. 2003. XB51 isoforms mediate Alzheimer's β-Amyloid peptide production by X11L (X11-like protein)-dependent and -independent mechanisms. Biochem. J. 374: 261-268.
6. Yoo, J.C., et al. 2004. NIP1/XB51/NECAB3 is a potential substrate of Nek2, suggesting specific roles of Nek2 in Golgi. Exp. Cell Res. 292: 393-402.

CHROMOSOMAL LOCATION

Genetic locus: NECAB3 (human) mapping to 20q11.22.

PRODUCT

APBA2BP 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 APBA2BP shRNA Plasmid (h): sc-72511-SH and APBA2BP shRNA (h) Lentiviral Particles: sc-72511-V as alternate gene silencing products.

For independent verification of APBA2BP (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-72511A, sc-72511B and sc-72511C.

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 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

APBA2BP siRNA (h) is recommended for the inhibition of APBA2BP 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

APBA2BP (A-2): sc-376656 is recommended as a control antibody for monitoring of APBA2BP 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 APBA2BP gene expression knockdown using RT-PCR Primer: APBA2BP (h)-PR: sc-72511-PR (20 µl). 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.