

APBA2BP siRNA (m): sc-141144

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 X11 β 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

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2. Sugita, S., et al. 2000. Specificity of Ca²⁺-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 Ca²⁺-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.
7. Wu, H., et al. 2007. EFCBP1/NECAB1, a brain-specifically expressed gene with highest abundance in temporal lobe, encodes a protein containing EF-hand and antibiotic biosynthesis monooxygenase domains. *DNA Seq.* 18: 73-79.

CHROMOSOMAL LOCATION

Genetic locus: Necab3 (mouse) mapping to 2 H1.

PRODUCT

APBA2BP siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see APBA2BP shRNA Plasmid (m): sc-141144-SH and APBA2BP shRNA (m) Lentiviral Particles: sc-141144-V as alternate gene silencing 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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

APBA2BP siRNA (m) is recommended for the inhibition of APBA2BP 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 μ M in 66 μ l. 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 (m)-PR: sc-141144-PR (20 μ l). 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.