SANTA CRUZ BIOTECHNOLOGY, INC.

Fe65L siRNA (h): sc-89117

BACKGROUND

Fe65L (Fe65-like protein), also known as APBB2 (Amyloid β (A4) precursor protein-binding, family B, member 2), is a 758 amino acid protein that contains one WW domain and two PID domains. Binding to the intracellular domain of the β-Amyloid precursor protein, Fe65L is thought to modulate the internalization and, therefore, the accessibility and function of β-Amyloid. Via its ability to control the intracellular accumulation of β-Amyloid, Fe65L is thought to play a role in the pathogenesis of Alzheimer's disease. Multiple isoforms of Fe65L exist due to alternative splicing events. The gene encoding Fe65L maps to human chromosome 4p14, 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

1. Guenette, S.Y., et al. 1996. Association of a novel human Fe65-like protein with the cytoplasmic domain of the β-Amyloid precursor protein. Proc. Natl. Acad. Sci. USA 93: 10832-10837.
2. Blanco, G., et al. 1998. Mapping of the human and murine X11-like genes (APBA2 and apba2), the murine Fe65 gene (Apbb1), and the human Fe65-like gene (APBB2): genes encoding phosphotyrosine-binding domain proteins that interact with the Alzheimer's disease amyloid precursor protein. Mamm. Genome. 9: 473-475.
3. Bruni, P., et al. 2002. Fe65, a ligand of the Alzheimer's β-Amyloid precursor protein, blocks cell cycle progression by down-regulating thymidylate synthase expression. J. Biol. Chem. 277: 35481-35488.
4. Chang, Y., et al. 2003. Generation of the β-Amyloid peptide and the amyloid precursor protein C-terminal fragment γ are potentiated by FE65L1. J. Biol. Chem. 278: 51100-51107.
5. Lange, A., et al. 2005. The apoptosis inhibitory domain of Fe65-like protein 1 regulates both apoptotic and caspase-independent programmed cell death mediated by tumor necrosis factor. Biochem. Biophys. Res. Commun. 335: 575-583.

CHROMOSOMAL LOCATION

Genetic locus: APBB2 (human) mapping to 4p14.

PRODUCT

Fe65L 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 Fe65L shRNA Plasmid (h): sc-89117-SH and Fe65L shRNA (h) Lentiviral Particles: sc-89117-V as alternate gene silencing products.

For independent verification of Fe65L (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-89117A, sc-89117B and sc-89117C.

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

Fe65L siRNA (h) is recommended for the inhibition of Fe65L 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 Fe65L gene expression knockdown using RT-PCR Primer: Fe65L (h)-PR: sc-89117-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.