SANTA CRUZ BIOTECHNOLOGY, INC.

Ebi2 siRNA (h): sc-62253

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Epstein-Barr virus-induced gene 2 (Ebi2) is a 357 amino acid multi-pass membrane protein. It is expressed in B lymphocytes and lymphoid tissues and may function in the modulation of the immune system. Out of the nine genes that are induced by the Epstein-Barr virus, Ebi2 exhibits the highest levels of upregulation. Ebi2 is a G protein-coupled receptor that signals through the G protein $G_{\alpha i}$. Ebi2 contains seven hydrophobic transmembrane regions and a putative N-linked glycosylation site at its extracellular N-terminus. Ebi2 is believed to be involved in regulating the effects of the Epstein-Barr virus on B lymphocytes. In addition, Ebi2 may play a role mediating normal lymphocyte functions.

REFERENCES

1. Birkenbach, M., et al. 1993. Epstein-Barr virus-induced genes: first lymphocyte-specific G protein-coupled peptide receptors. J. Virol. 67: 2209-2220.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605741. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Cahir-McFarland, E.D., et al. 2004. Role of NFκB in cell survival and transcription of latent membrane protein 1-expressing or Epstein-Barr virus latency III-infected cells. J. Virol. 78: 4108-4119.
4. Knight, J.S., et al. 2005. Epstein-Barr virus latent antigen 3C can mediate the degradation of the retinoblastoma protein through an SCF cellular ubiquitin ligase. Proc. Natl. Acad. Sci. USA 102: 18562-18566.
5. Rosenkilde, M.M., et al. 2006. Molecular pharmacological phenotyping of EBI. An orphan seven-transmembrane receptor with constitutive activity. J. Biol. Chem. 281: 13199-13208.
6. Lünemann, J.D. and Münz, C. 2007. Epstein-Barr virus and multiple sclerosis. Curr. Neurol. Neurosci. Rep. 7: 253-258.

CHROMOSOMAL LOCATION

Genetic locus: GPR183 (human) mapping to 13q32.3.

PRODUCT

Ebi2 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 Ebi2 shRNA Plasmid (h): sc-62253-SH and Ebi2 shRNA (h) Lentiviral Particles: sc-62253-V as alternate gene silencing products.

For independent verification of Ebi2 (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-62253A, sc-62253B and sc-62253C.

PROTOCOLS

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

Ebi2 siRNA (h) is recommended for the inhibition of Ebi2 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

Ebi2 (G-12): sc-514342 is recommended as a control antibody for monitoring of Ebi2 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 Ebi2 gene expression knockdown using RT-PCR Primer: Ebi2 (h)-PR: sc-62253-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. Braden, K., et al. 2020. GPR183-oxysterol axis in spinal cord contributes to neuropathic pain. J. Pharmacol. Exp. Ther. 375: 349-357.

RESEARCH USE

For research use only, not for use in diagnostic procedures.