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SANTA CRUZ BIOTECHNOLOGY, INC.

EBF2 siRNA (h): sc-155997

BACKGROUND

Early B-cell factor 2 (EBF2), also known as Transcription factor COE2, is a 575 amino acid protein belonging to the COE family of proteins, whose members are all helix-loop-helix transcription factors. EBF2 is a transcription factor which, in synergy with the Wnt-responsive LEF1/CTNNB1 pathway, activates the decoy receptor for RANKL, OPG, in osteoblasts. OPG, in turn, regulates osteoclast differentiation. Lack of EBF2 has been found to cause a small defect in the terminal differentiation of osteoblasts, along with reduced bone mass and an increase in osteoclasts. Localized to the nucleus, EBF2 forms a homodimer or a heterodimer with a related family member.

REFERENCES

1. Wang, S.S., et al. 1997. The characterization of the Olf-1/EBF-like HLH transcription factor family: implications in olfactory gene regulation and neuronal development. J. Neurosci. 17: 4149-4158.
2. Tsai, R.Y., et al. 1997. Cloning and functional characterization of Roaz, a zinc finger protein that interacts with O/E-1 to regulate gene expression: implications for olfactory neuronal development. J. Neurosci. 17: 4159-4169.
3. Wang, S.S., et al. 2002. Cloning of a novel Olf-1/EBF-like gene, O/E-4, by degenerate oligo-based direct selection. Mol. Cell. Neurosci. 20: 404-414.
4. Kieslinger, M., et al. 2005. EBF2 regulates osteoblast-dependent differentiation of osteoclasts. Dev. Cell 9: 757-767.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609934. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Jimenez, M.A., et al. 2007. Critical role for Ebf1 and Ebf2 in the adipogenic transcriptional cascade. Mol. Cell. Biol. 27: 743-757.

CHROMOSOMAL LOCATION

Genetic locus: EBF2 (human) mapping to 8p21.2.

PRODUCT

EBF2 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 EBF2 shRNA Plasmid (h): sc-155997-SH and EBF2 shRNA (h) Lentiviral Particles: sc-155997-V as alternate gene silencing products.

For independent verification of EBF2 (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-155997A, sc-155997B and sc-155997C.

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.

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

EBF2 siRNA (h) is recommended for the inhibition of EBF2 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 EBF2 gene expression knockdown using RT-PCR Primer: EBF2 (h)-PR: sc-155997-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.