SANTA CRUZ BIOTECHNOLOGY, INC.

ER81 siRNA (m): sc-37842

BACKGROUND

Several members of the Ets gene family encode sequence-specific DNA binding proteins that recognize DNA sequences with a centrally located 5'-GGAA-3' element. All of the Ets proteins recognize the same central core sequence but each protein interacts with unique sequences that flank this core. PEA3 binds the motif 5'-AGGAAG-3', while ER81 (also designated ETV1) binds the motif 5'-CGGAA/T-3'. PEA3 is expressed at readily detectable levels in cells of epithelial and fibroblastic origin. Unlike other members of the Ets family, including Ets-1 and Ets-2, PEA3 is not expressed in hematopoietic cells. ER81 is highly expressed in brain, testis, lung and heart. ER81 is also moderately expressed in spleen, pancreas, colon and small intestine. During development, ER81, PEA3 and ERM display unique expression patterns which suggest these transcriptional factors play an important role in organogenesis. ERK-1 activates ER81 transcriptional activity, while MAPKAP kinase 2 inhibits ER81.

REFERENCES

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3. Monte, D., et al. 1995. Molecular characterization of the Ets-related human transcription factor ER81. Oncogene 11: 771-779.
4. Janknecht, R. 1996. Analysis of the ERK-stimulated Ets transcription factor ER81. Mol. Cell. Biol. 16: 1550-1556.
5. Chotteau-Lelievre, A., et al. 1997. Differential expression patterns of the PEA3 group transcription factors through murine embryonic development. Oncogene 15: 937-952.
6. Janknecht, R. 2001. Cell type-specific inhibition of the Ets transcription factor ER81 by mitogen-activated protein kinase-activated protein kinase 2. J. Biol. Chem. 276: 41856-41861.
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8. Li, L.Y., et al. 2006. Neurotrophin-3 ameliorates sensory-motor deficits in ER81-deficient mice. Dev. Dyn. 235: 3039-3050.
9. Pastorcic, M. and Das, H.K. 2007. Analysis of transcriptional modulation of the Presenilin 1 gene promoter by ZNF237, a candidate binding partner of the Ets transcription factor ERM. Brain Res. 1128: 21-32.

CHROMOSOMAL LOCATION

Genetic locus: Etv1 (mouse) mapping to 12 A3.

PROTOCOLS

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

PRODUCT

ER81 siRNA (m) 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 ER81 shRNA Plasmid (m): sc-37842-SH and ER81 shRNA (m) Lentiviral Particles: sc-37842-V as alternate gene silencing products.

For independent verification of ER81 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-37842A, sc-37842B and sc-37842C.

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

ER81 siRNA (m) is recommended for the inhibition of ER81 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 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 ER81 gene expression knockdown using RT-PCR Primer: ER81 (m)-PR: sc-37842-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.