SANTA CRUZ BIOTECHNOLOGY, INC.

ECEL1 siRNA (m): sc-143281

BACKGROUND

ECEL1 (endothelin-converting enzyme-like 1, also designated XCE and DINE, damage-induced neuronal endopeptidase) is a member of the family of cell-surface zinc metallopeptidases. This family of metalloproteases includes endothelin-converting enzyme (ECE) and neutral endopeptidase (NEP). These peptidases are involved in the post-secretory processing and metabolism of neuropeptides and peptide hormones. Following neuronal damage, proteolytic activity of ECEL1 activates antioxidant enzymes suggesting a mechanism for how injured neurons protect themselves against death. Glycosylated ECEL1 is predominantly expressed in the central nervous system, including the spinal cord and medulla.

REFERENCES

1. Shipp, M.A., et al. 1993. Hematopoietic differentiation antigens that are membrane-associated enzymes: cutting is the key! Blood 82: 1052-1070.
2. Turner, A.J., et al. 1997. Mammalian membrane metallopeptidases: NEP, ECE, KELL, and PEX. FASEB J. 11: 355-364.
3. Gomazkov, O.A. 1998. Endothelin-converting enzyme: its functional aspect. Biochemistry 63: 125-132.
4. Schweizer, A., et al. 1999. Neonatal lethality in mice deficient in XCE, a novel member of the endothelin-converting enzyme and neutral endopeptidase family. J. Biol. Chem. 274: 20450-20456.
5. Valdenaire, O., et al. 1999. XCE, a new member of the endothelin-converting enzyme and neutral endopeptidase family, is preferentially expressed in the CNS. Brain Res. Mol. Brain Res. 64: 211-221.
6. Valdenaire, O., et al. 2000. Organization and chromosomal localization of the human ECEL1 (XCE) gene encoding a zinc metallopeptidase involved in the nervous control of respiration. Biochem. J. 346: 611-616.
7. Kiryu-Seo, S., et al. 2000. Damage-induced neuronal endopeptidase (DINE) is a unique metallo-peptidase expressed in response to neuronal damage and activates superoxide scavengers. Proc. Natl. Acad. Sci. USA 97: 4345-4350.

CHROMOSOMAL LOCATION

Genetic locus: Ecel1 (mouse) mapping to 1 D.

PRODUCT

ECEL1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ECEL1 shRNA Plasmid (m): sc-143281-SH and ECEL1 shRNA (m) Lentiviral Particles: sc-143281-V as alternate gene silencing products.

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

ECEL1 siRNA (m) is recommended for the inhibition of ECEL1 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 ECEL1 gene expression knockdown using RT-PCR Primer: ECEL1 (m)-PR: sc-143281-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.