SANTA CRUZ BIOTECHNOLOGY, INC.

EDEM3 siRNA (m): sc-143295

BACKGROUND

Proteins expressed in the endoplasmic reticulum (ER) are tightly regulated by a variety of quality control mechanisms. Terminally misfolded proteins in the ER are retrotranslocated to the cytoplasm and degraded by proteasomes through a mechanism known as ER-associated degradation (ERAD). EDEM3 (ER degradation-enhancing alpha-mannosidase-like 3) is a 932 amino acid protein that localizes to the lumen of the ER and, in conjunction with other EDEM proteins (namely EDEM and EDEM2), is involved in the ERAD pathway of protein degradation. One of several members of the glycosyl hydrolase 47 family, EDEM3 contains one PA (protease associated) domain and is expressed ubiquitously, with highest expression in heart, liver and kidney. The gene encoding EDEM3 is located in a prostate cancer susceptibility region on chromosome 1, suggesting a possible role in tumorigenesis.

REFERENCES

1. Sood, R., et al. 2001. Cloning and characterization of 13 novel transcripts and the human RGS8 gene from the 1q25 region encompassing the hereditary prostate cancer (HPC1) locus. Genomics 73: 211-222.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610214. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Mast, S.W., et al. 2005. Human EDEM2, a novel homolog of family 47 glycosidases, is involved in ER-associated degradation of glycoproteins. Glycobiology 15: 421-436.
4. Olivari, S., et al. 2005. A novel stress-induced EDEM variant regulating endoplasmic reticulum-associated glycoprotein degradation. J. Biol. Chem. 280: 2424-2428.
5. Hirao, K., et al. 2006. EDEM3, a soluble EDEM homolog, enhances glycoprotein endoplasmic reticulum-associated degradation and mannose trimming. J. Biol. Chem. 281: 9650-9658.
6. Olivari, S., et al. 2007. Glycoprotein folding and the role of EDEM1, EDEM2 and EDEM3 in degradation of folding-defective glycoproteins. FEBS Lett. 581: 3658-3664.

CHROMOSOMAL LOCATION

Genetic locus: Edem3 (mouse) mapping to 1 G2.

PRODUCT

EDEM3 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 EDEM3 shRNA Plasmid (m): sc-143295-SH and EDEM3 shRNA (m) Lentiviral Particles: sc-143295-V as alternate gene silencing products.

For independent verification of EDEM3 (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-143295A, sc-143295B and sc-143295C.

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

EDEM3 siRNA (m) is recommended for the inhibition of EDEM3 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 EDEM3 gene expression knockdown using RT-PCR Primer: EDEM3 (m)-PR: sc-143295-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.