SANTA CRUZ BIOTECHNOLOGY, INC.

Esophagin siRNA (m): sc-62283

BACKGROUND

Esophagin, also known as small proline rich protein 3 (SPR3) or cornifin β, belongs to the cornifin family of cornified-envelope structural proteins. It is expressed in mucosal epithelia such as esophagus and tongue and is strongly induced during epidermal keratinocyte differentiation. Due to its highly inducible nature, Esophagin is considered a marker of squamous differentiation. Esophagin serves as a cross-linking protein within the cornified cell envelope and may play a role in the maintenance of normal esophageal epithelial homeostasis. It shares significant homology with the related proteins, SPRR1 and SPRR2. Esophagin is typically not expressed in healthy human epithelium, but its expression is upregulated in numerous hyperproliferative disorders of the skin. Contrastly, its expression is dramatically downregulated in esophageal squamous cell carcinoma.

REFERENCES

1. Steinert, P.M., et al. 2000. Transglutaminase crosslinking and structural studies of the human small proline rich 3 protein. Cell Death Differ. 6: 916-930.
2. Smolinski, K.N., et al. 2002. Activation of the Esophagin promoter during esophageal epithelial cell differentiation. Genomics 79: 875-880.
3. Katou, F., et al. 2003. Differential expression of cornified cell envelope precursors in normal skin, intraorally transplanted skin and normal oral mucosa. Br. J. Dermatol. 148: 898-905.
4. Kimos, M.C., et al. 2004. Esophagin and proliferating cell nuclear antigen (PCNA) are biomarkers of human esophageal neoplastic progression. Int. J. Cancer 111: 415-417.
5. Lehr, E., et al. 2004. Infection with human papillomavirus alters expression of the small proline rich proteins 2 and 3. J. Med. Virol. 72: 478-483.
6. Vitorino, R., et al. 2006. Two-dimensional electrophoresis study of *in vitro* pellicle formation and dental caries susceptibility. Eur. J. Oral Sci. 114: 147-153.

CHROMOSOMAL LOCATION

Genetic locus: Sprr3 (mouse) mapping to 3 F1.

PRODUCT

Esophagin 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 Esophagin shRNA Plasmid (m): sc-62283-SH and Esophagin shRNA (m) Lentiviral Particles: sc-62283-V as alternate gene silencing products.

For independent verification of Esophagin (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-62283A, sc-62283B and sc-62283C.

RESEARCH USE

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

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

Esophagin siRNA (m) is recommended for the inhibition of Esophagin 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 Esophagin gene expression knockdown using RT-PCR Primer: Esophagin (m)-PR: sc-62283-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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