SANTA CRUZ BIOTECHNOLOGY, INC.

Esophagin (E-6): sc-514844

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.
7. Cai, K., et al. 2006. Decreased polyphenol transport across cultured intestinal cells by a salivary proline-rich protein. Biochem. Pharmacol. 71: 1570-1580.
8. Stewart, M.G. and Banks, D. 2006. Enhancement of long-term memory retention by Colostrinin in one-day-old chicks trained on a weak passive avoidance learning paradigm. Neurobiol. Learn. Mem. 86: 66-71.

CHROMOSOMAL LOCATION

Genetic locus: SPRR3 (human) mapping to 1q21.3.

SOURCE

Esophagin (E-6) is a mouse monoclonal antibody raised against amino acids 103-152 mapping near the C-terminus of Esophagin of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Esophagin (E-6) is recommended for detection of Esophagin of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Esophagin siRNA (h): sc-62282, Esophagin shRNA Plasmid (h): sc-62282-SH and Esophagin shRNA (h) Lentiviral Particles: sc-62282-V.

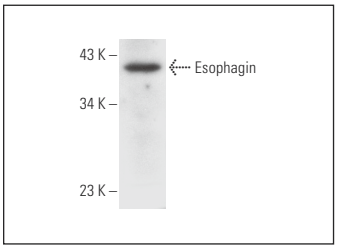
Molecular Weight of Esophagin: 37 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

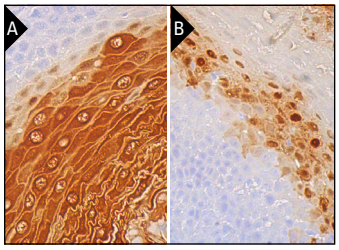
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Esophagin (E-6): sc-514844. Western blot analysis of Esophagin expression in Hep G2 whole cell lysate.



Esophagin (E-6): sc-514844. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus (**A**) and human tonsil (**B**) tissue showing cytoplasmic and nuclear staining of squamous epithelial cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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