SANTA CRUZ BIOTECHNOLOGY, INC.

envoplakin (CRENV-1): sc-53276

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The Power to Question

BACKGROUND

Paraneoplastic pemphigus (PNP) is an autoimmune blistering disease that is associated with underlying neoplasms. PNP sera react with multiple plakin family proteins, among which only envoplakin and periplakin are constantly detected. Envoplakin, a membrane-associated precursor of the epidermal cornified envelope and desmosomes, is a member of the plakin family of proteins. Envoplakin is expressed in epidermal and esophageal keratinocytes and nonepithelial stratified squamous epithelia, but not in simple epithelia or nonepithelial cells. Envoplakin co-localizes with desmoplakin at desmosomes and on keratin filaments throughout the differentiated layers of the epidermis, but mainly accumulates in nuclear and cytoplasmic aggregates with associated intermediate filaments. The envoplakin rod domain is required for aggregation and the linker domain is required for intermediate filament association.The distribution of envoplakin at the interdesmosomal plasma membrane depends on heterodimerization with periplakin.

REFERENCES

1. Ruhrberg, C., et al. 1996. Chromosomal localization of the human envoplakin gene (EVPL) to the region of the tylosis oesophageal cancer gene (TOCG) on 17q25. Genomics 37: 381-385.
2. Ruhrberg, C., et al. 1996. Envoplakin, a novel precursor of the cornified envelope that has homology to desmoplakin. J. Cell Biol. 134: 715-29.
3. Proby, C., et al. 1999. Human autoantibodies against HD1/plectin in paraneoplastic pemphigus. J. Invest. Dermatol. 112: 153-156.
4. Chorzelski, T., et al. 1999. Paraneoplastic pemphigus associated with Castleman tumor, myasthenia gravis and bronchiolitis obliterans. J. Am. Acad. Dermatol. 41: 393-400.
5. Risk, J.M., et al. 1999. Envoplakin, a possible candidate gene for focal NEPPK/esophageal cancer (TOC): the integration of genetic and physical maps of the TOC region on 17q25. Genomics 59: 234-242.
6. Maatta, A., et al. 2000. Structure and regulation of the envoplakin gene. J. Biol. Chem. 275: 19857-19865.
7. DiColandrea, T., et al. 2000. Subcellular distribution of envoplakin and periplakin: insights into their role as precursors of the epidermal cornified envelope. J. Cell Biol. 151: 573-586.
8. Nagata, Y., et al. 2001. Paraneoplastic pemphigus sera react strongly with multiple epitopes on the various regions of envoplakin and periplakin, except for the C-terminal homologous domain of periplakin. J. Invest. Dermatol. 116: 556-563.

CHROMOSOMAL LOCATION

Genetic locus: EVPL (human) mapping to 17q25.1.

SOURCE

envoplakin (CRENV-1) is a mouse monoclonal antibody raised against the N-terminus of envoplakin of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

envoplakin (CRENV-1) is recommended for detection of envoplakin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for envoplakin siRNA (h): sc-43412, envoplakin shRNA Plasmid (h): sc-43412-SH and envoplakin shRNA (h) Lentiviral Particles: sc-43412-V.

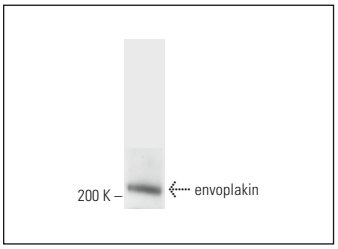
Molecular Weight of envoplakin: 210 kDa.

Positive Controls: A549 cell lysate: sc-2413 or HeLa whole cell lysate: sc-2200.

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 A/G PLUS-Agarose: sc-2003 (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.

DATA



envoplakin (CRENV-1): sc-53276. Western blot analysis of envoplakin expression in HeLa whole cell lysate.

STORAGE

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

PROTOCOLS

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