

envoplakin (F-4): sc-137033

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 colocalizes 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.

CHROMOSOMAL LOCATION

Genetic locus: EVPL (human) mapping to 17q25.1; Evpl (mouse) mapping to 11 E2.

SOURCE

envoplakin (F-4) is a mouse monoclonal antibody raised against amino acids 91-235 mapping near the N-terminus of envoplakin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

envoplakin (F-4) is available conjugated to agarose (sc-137033 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137033 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137033 PE), fluorescein (sc-137033 FITC), Alexa Fluor® 488 (sc-137033 AF488), Alexa Fluor® 546 (sc-137033 AF546), Alexa Fluor® 594 (sc-137033 AF594) or Alexa Fluor® 647 (sc-137033 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137033 AF680) or Alexa Fluor® 790 (sc-137033 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

envoplakin (F-4) is recommended for detection of envoplakin of mouse, rat and 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).

envoplakin (F-4) is also recommended for detection of envoplakin in additional species, including canine.

Suitable for use as control antibody for envoplakin siRNA (h): sc-43412, envoplakin siRNA (m): sc-43413, envoplakin shRNA Plasmid (h): sc-43412-SH, envoplakin shRNA Plasmid (m): sc-43413-SH, envoplakin shRNA (h) Lentiviral Particles: sc-43412-V and envoplakin shRNA (m) Lentiviral Particles: sc-43413-V.

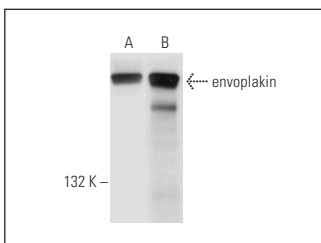
Molecular Weight of envoplakin: 210 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A549 cell lysate: sc-2413 or MDCK cell lysate: sc-2252.

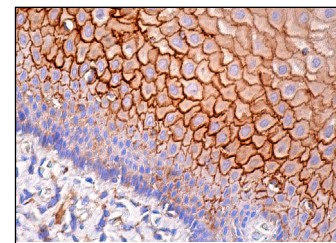
RECOMMENDED SUPPORT REAGENTS

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. 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



envoplakin (F-4): sc-137033. Western blot analysis of envoplakin expression in A549 (A) and MDCK (B) whole cell lysates.



envoplakin (F-4): sc-137033. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing membrane and cytoplasmic staining of squamous epithelial cells.

RESEARCH USE

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