SANTA CRUZ BIOTECHNOLOGY, INC.

periplakin (G-1): sc-365530

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Paraneoplastic pemphigus (PNP) is an autoimmune blistering disease that is associated with underlying neoplasms. PNP sera reacts with multiple plakin family proteins, among which only envoplakin and periplakin are constantly detected. Periplakin, a membrane-associated precursor of the epidermal cornified envelope and desmosomes, is a member of the plakin family of proteins. The periplakin gene PPL is mapped to human chromosome 16p13.3, and its promoter contains multiple AP2 sites and an SP1 site. Periplakin localizes to desmosomes, the interdesomosomal plasma membrane and intermediate filaments. The periplakin rod domain is necessary for the redistribution of envoplakin to desmosomes and the cytoskeleton by heterodimerization. The periplakin linker domain is required for intermediate filament association. The N-terminus of periplakin accumulates at the cell surface of microvilli in association with cortical Actin. Envoplakin and periplakin localize independently to desmosomes, and the distribution of envoplakin at the interdesmosomal plasma membrane depends on heterodimerization with periplakin. The N-terminus of periplakin, therefore, plays an important role in forming the scaffold on which the cornified envelope is assembled.

REFERENCES

1. Proby, C., et al. 1999. Human autoantibodies against HD1/plectin in paraneoplastic pemphigus. J. Invest. Dermatol. 112: 153-156.
2. Amagai, M. 1999. Autoimmunity against desmosomal cadherins in pemphigus. J. Dermatol. Sci. 20: 92-102.
3. Aho, S., et al. 1999 Human periplakin: genomic organization in a clonally unstable region of chromosome 16p with an abundance of repetitive sequence sequence elements. Genomics 56: 160-168.
4. Kiyokawa, C. 1999 Envoplakin and periplakin are the paraneoplastic pemphigus antigens. Kurme Med. J. 46: 71-78.

CHROMOSOMAL LOCATION

Genetic locus: PPL (human) mapping to 16p13.3; Ppl (mouse) mapping to 16 A1.

SOURCE

periplakin (G-1) is a mouse monoclonal antibody raised against amino acids 41-240 mapping near the N-terminus of periplakin of human origin.

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.

periplakin (G-1) is available conjugated to agarose (sc-365530 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365530 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365530 PE), fluorescein (sc-365530 FITC), Alexa Fluor® 488 (sc-365530 AF488), Alexa Fluor® 546 (sc-365530 AF546), Alexa Fluor® 594 (sc-365530 AF594) or Alexa Fluor® 647 (sc-365530 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365530 AF680) or Alexa Fluor® 790 (sc-365530 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

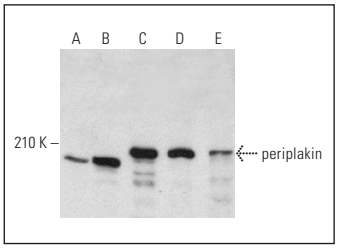
periplakin (G-1) is recommended for detection of periplakin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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 periplakin siRNA (h): sc-43414, periplakin siRNA (m): sc-43415, periplakin shRNA Plasmid (h): sc-43414-SH, periplakin shRNA Plasmid (m): sc-43415-SH, periplakin shRNA (h) Lentiviral Particles: sc-43414-V and periplakin shRNA (m) Lentiviral Particles: sc-43415-V.

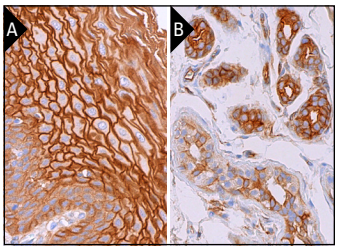
Molecular Weight of periplakin: 190 kDa.

Positive Controls: T-47D cell lysate: sc-2293, MCF7 whole cell lysate: sc-2206 or c4 whole cell lysate: sc-364186.

DATA



periplakin (G-1): sc-365530. Western blot analysis of periplakin expression in Hep G2 (**A**), T-47D (**B**), MCF7 (**C**), c4 (**D**) and NRK (**E**) whole cell lysates.



periplakin (G-1): sc-365530. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing membrane staining of squamous epithelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human sweat gland tissue showing membrane and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Dieudonné, Y., et al. 2023. Paraneoplastic pemphigus uncovers distinct clinical and biological phenotypes of western unicentric Castleman disease. Br. J. Haematol. 202: 267-278.

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.

PROTOCOLS

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