

periplakin (AE11): sc-80605

BACKGROUND

Paraneoplastic pemphigus (PNP) is an autoimmune blistering disease that is associated with underlying neoplasms. PNP sera reacts with multiple plakins 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 plakins 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 interdesmosomal 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

- Aho, S., Rothenberger, K., Tan, E.M., Ryoo, Y.W., Cho, B.H., McLean, W.H. and Uitto, J. 1999. Human periplakin: genomic organization in a clonally unstable region of chromosome 16p with an abundance of repetitive sequence elements. *Genomics* 56: 160-168.
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- Amagai, M. 1999. Autoimmunity against desmosomal cadherins in pemphigus. *J. Dermatol. Sci.* 20: 92-102.
- Kiyokawa, C. 1999. Envoplakin and periplakin are the paraneoplastic pemphigus antigens. *Kurume Med. J.* 46: 71-78.
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- DiColandrea, T., Karashima, T., Maatta, A. and Watt, F.M. 2000. Subcellular distribution of envoplakin and periplakin: insights into their role as precursors of the epidermal cornified envelope. *J. Cell Biol.* 15: 573-586.

CHROMOSOMAL LOCATION

Genetic locus: PPL (human) mapping to 16p13.3.

SOURCE

periplakin (AE11) is a mouse monoclonal antibody raised against epidermal keratinocytes of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

periplakin (AE11) is recommended for detection of periplakin 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 periplakin siRNA (h): sc-43414, periplakin shRNA Plasmid (h): sc-43414-SH and periplakin shRNA (h) Lentiviral Particles: sc-43414-V.

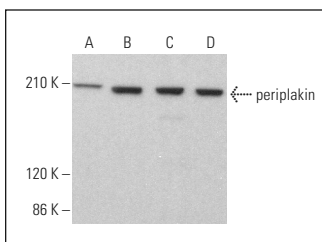
Molecular Weight of periplakin: 190 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Hep G2 cell lysate: sc-2227 or T-47D cell lysate: sc-2293.

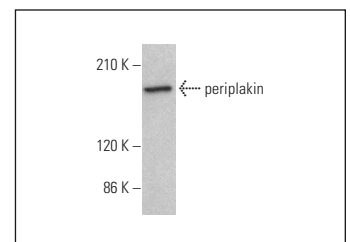
RECOMMENDED SUPPORT REAGENTS

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



periplakin (AE11): sc-80605. Western blot analysis of periplakin expression in T-47D (A), A-431 (B), Caco-2 (C) and BXPC-3 (D) whole cell lysates.



periplakin (AE11): sc-80605. Western blot analysis of periplakin expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

- Boczonadi, V. and Määttä, A. 2016. Functional analysis of periplakin and envoplakin, cytoskeletal linkers, and cornified envelope precursor proteins. *Methods Enzymol.* 569: 309-329.

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.