

periphilin 1 (K-12): sc-163223

BACKGROUND

Periphilin 1, also known as PPHLN1 or gastric cancer antigen Ga50, is a 458 amino acid protein that interacts with periplakin, a known precursor of the cornified cell envelope. A homodimer, periphilin 1 is involved in epithelial differentiation and contributes to epidermal integrity and barrier formation. Periphilin 1 is ubiquitously expressed and localizes to nucleus and cytoplasm. Existing as eight alternatively spliced isoforms, periphilin 1 is highly insoluble and contains a putative nuclear localization signal (NLS) within its N-terminal half, a prerequisite for the formation of insoluble complexes. The N-terminal portion of periphilin 1 is followed by a possible caspase recognition sequence and the C-terminal half contains a potential nuclear export signal, which is composed of heptad repeats that form four putative alpha helices, and shares structural homology with the homodimerization domain of vitellogenin proteins. Periphilin 1 is encoded by a gene that maps to human chromosome 12q12.

REFERENCES

1. Lin, A., et al 2002. Serological identification and expression analysis of gastric cancer-associated genes. *Br. J. Cancer* 86: 1824-1830.
2. Kazerounian, S. and Aho, S. 2003. Characterization of periphilin, a widespread, highly insoluble nuclear protein and potential constituent of the keratinocyte cornified envelope. *J. Biol. Chem.* 278: 36707-36717.
3. Kurita, M., et al. 2004. Overexpression of CR/periphilin downregulates Cdc7 expression and induces S-phase arrest. *Biochem. Biophys. Res. Commun.* 324: 554-561.
4. Reis, E.M., et al. 2004. Antisense intronic non-coding RNA levels correlate to the degree of tumor differentiation in prostate cancer. *Oncogene* 23: 6684-6692.
5. Mizrachi-Koren, M., et al. 2005. Identification of a novel locus associated with congenital recessive ichthyosis on 12p11.2-q13. *J. Invest. Dermatol.* 125: 456-462.
6. Huh, J.W., et al. 2006. Molecular evolution of the periphilin gene in relation to human endogenous retrovirus m element. *J. Mol. Evol.* 62: 730-737.
7. Failla, P., et al. 2008. 12q12 deletion: a new patient contributing to genotype-phenotype correlation. *Am. J. Med. Genet. A.* 146A: 1354-1357.
8. Soehn, A.S., et al. 2009. Periphilin is strongly expressed in the murine nervous system and is indispensable for murine development. *Genesis* 47: 697-707.
9. Adam, M.P., et al. 2010. A family with a 1.17 Mb deletion of 12q12: refining genotype-phenotype correlation. *Am. J. Med. Genet. A.* 152A: 2394-2398.

CHROMOSOMAL LOCATION

Genetic locus: PPHLN1 (human) mapping to 12q12.

STORAGE

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

SOURCE

periphilin 1 (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of periphilin 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-163223 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

periphilin 1 (K-12) is recommended for detection of periphilin 1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (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 periphilin 1 siRNA (h): sc-95892, periphilin 1 shRNA Plasmid (h): sc-95892-SH and periphilin 1 shRNA (h) Lentiviral Particles: sc-95892-V.

Molecular Weight of periphilin 1 isoforms: 53/43/50/30/37/13/42 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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