

# phospholemman (K-14): sc-27966

## BACKGROUND

Phospholemman, a member of the FXYP family of small membrane proteins, forms ion channels in the lipid bilayer that exhibit two novel features, selectivity for zwitterion taurine and switching between anion and cation-selective conformations. Taurine contributes as an osmolyte to regulate volume decrease, implying a role for phospholemman in this process. Furthermore, phospholemman phosphorylation occurs following adrenergic or Insulin stimulation of cardiac and skeletal muscle, which belies a potential role in muscle contractility. FXYP proteins also interact with Na, K-ATPase in either the golgi or plasma membrane in a tissue and isotype-specific manner, thus providing a possible mechanism for regulation of muscle contraction by phospholemman.

## REFERENCES

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- Morales-Mulia, M., Pasantes-Morales, H. and Morán, J. 2000. Volume sensitive efflux of taurine in HEK293 cells overexpressing phospholemman. *Biochim. Biophys. Acta* 1496: 252-260.
- Bogaev, R.C., Jia, L.G., Kobayashi, Y.M., Palmer, C.J., Mounsey, J.P., Moorman, J.R., Jones, L.R. and Tucker, A.L. 2001. Gene structure and expression of phospholemman in mouse. *Gene* 271: 69-79.
- Crambert, G., Fuzesi, M., Garty, H., Karlish, S. and Geering, K. 2002. Phospholemman (FXYP1) associates with Na, K-ATPase and regulates its transport properties. *Proc. Natl. Acad. Sci. USA* 99: 11476-11481.

## CHROMOSOMAL LOCATION

Genetic locus: FXYP1 (human) mapping to 19q13.12; Fxyp1 (mouse) mapping to 7 B1.

## SOURCE

phospholemman (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of phospholemman 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-27966 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

phospholemman (K-14) is recommended for detection of phospholemman of mouse, rat and 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).

phospholemman (K-14) is also recommended for detection of phospholemman in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for phospholemman siRNA (h): sc-106408, phospholemman siRNA (m): sc-152233, phospholemman shRNA Plasmid (h): sc-106408-SH, phospholemman shRNA Plasmid (m): sc-152233-SH, phospholemman shRNA (h) Lentiviral Particles: sc-106408-V and phospholemman shRNA (m) Lentiviral Particles: sc-152233-V.

Positive Controls: Rat heart extract: sc-2393.

## 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.