SANTA CRUZ BIOTECHNOLOGY, INC.

phospholemman (E-8): sc-515395

BACKGROUND

Phospholemman, a member of the FXYD family of small membrane proteins, forms ion channels in the lipid bilayer that exhibit two novel features, selectivity for zwitterion tauring and switching between anion and cation-selective conformations. Taurine contributes as an osmolyte to regulate volume decrease, inplying 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. FXYD 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

1. Chen, Z.H., et al. 1999. Ion currents through mutant phospholemman channel molecules. Receptors Channels 6: 435-447.
2. Morales-Mulia, M., et al. 2000. Volume sensitive efflux of taurine in HEK293 cells overexpressing phospholemman. Biochim. Biophys. Acta 1496: 252-260.
3. Bogaev, R.C., et al. 2001. Gene structure and expression of phospholemman in mouse. Gene 271: 69-79.
4. Crambert, G., et al. 2002. Phospholemman (FXYD1) associates with Na,K-ATPase and regulates its transport properties. Proc. Natl. Acad. Sci. USA 99: 11476-11481.

CHROMOSOMAL LOCATION

Genetic locus: Fxyd1 (mouse) mapping to 7 B1.

SOURCE

phospholemman (E-8) is a mouse monoclonal antibody raised against amino acids 53-92 mapping at the C-terminus of phospholemman of mouse origin.

PRODUCT

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

phospholemman (E-8) is available conjugated to agarose (sc-515395 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515395 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515395 PE), fluorescein (sc-515395 FITC), Alexa Fluor® 488 (sc-515395 AF488), Alexa Fluor® 546 (sc-515395 AF546), Alexa Fluor® 594 (sc-515395 AF594) or Alexa Fluor® 647 (sc-515395 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515395 AF680) or Alexa Fluor® 790 (sc-515395 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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.

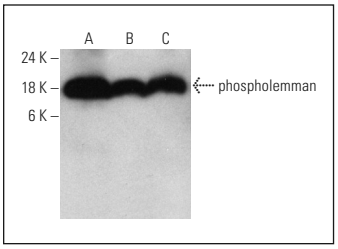
APPLICATIONS

phospholemman (E-8) is recommended for detection of phospholemman of mouse and rat 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).

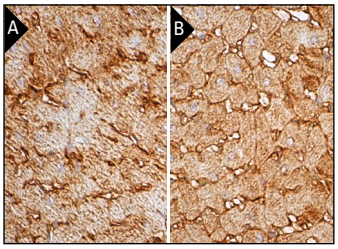
Suitable for use as control antibody for phospholemman siRNA (m): sc-152233, phospholemman shRNA Plasmid (m): sc-152233-SH and phospholemman shRNA (m) Lentiviral Particles: sc-152233-V.

Positive Controls: mouse heart extract: sc-2254, mouse brain extract: sc-2253 or mouse skeletal muscle extract: sc-364250.

DATA



phospholemman (E-8): sc-515395. Western blot analysis of phospholemman expression in mouse heart (**A**), mouse brain (**B**) and mouse skeletal muscle (**C**) tissue extracts.



phospholemman (E-8): sc-515395. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse heart muscle tissue showing membrane and cytoplasmic staining of myocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat heart muscle tissue showing membrane and cytoplasmic staining of myocytes (**B**).

PROTOCOLS

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