

Type II 4-phosphatase (3F2): sc-293234

BACKGROUND

The inositol polyphosphate 4-phosphatases selectively remove the phosphate from the 4-position of various phosphatidylinositols, which generate second messengers in response to extracellular signals. Both the Type I and Type II 4-phosphatases catalyze the hydrolysis of phosphatidylinositol 3,4-bisphosphate, inositol 1,3,4-trisphosphate, and inositol 3,4-bisphosphate. Type I and Type II 4-phosphatases are both alternatively spliced into two isoforms, α and β , which have been detected in human platelets, rat brain, heart, skeletal muscle and spleen; and all isoforms contain a conserved motif CKSAKDRT, which contains the active site consensus sequence C-X5-R. Both type I and II 4-phosphatases are thought to regulate the level of intracellular calcium by acting as signal terminating enzymes.

REFERENCES

1. Bansal, V.S., et al. 1990. The isolation and characterization of inositol polyphosphate 4-phosphatase. *J. Biol. Chem.* 265: 1806-1811.
2. Norris, F.A., et al. 1995. The isolation and characterization of cDNA encoding human and rat brain inositol polyphosphate 4-phosphatase. *J. Biol. Chem.* 270: 16128-16133.
3. Norris, F.A., et al. 1997. Inositol polyphosphate 4-phosphatase is inactivated by calpain-mediated proteolysis in stimulated human platelets. *J. Biol. Chem.* 272: 10987-10989.
4. Norris, F.A., et al. 1997. The cDNA cloning and characterization of inositol polyphosphate 4-phosphatase type II. Evidence for conserved alternative splicing in the 4-phosphatase family. *J. Biol. Chem.* 272: 23859-23864.
5. Majerus, P.W., et al. 1999. The role of phosphatases in inositol signaling reactions. *J. Biol. Chem.* 274: 10669-10672.

CHROMOSOMAL LOCATION

Genetic locus: INPP4B (human) mapping to 4q31.21.

SOURCE

Type II 4-phosphatase (3F2) is a mouse monoclonal antibody raised against amino acids 1-53 representing full length Type II 4-phosphatase of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 for detailed protocols and support products.

APPLICATIONS

Type II 4-phosphatase (3F2) is recommended for detection of Type II 4-phosphatase of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

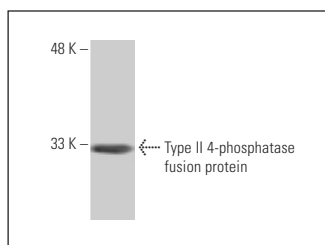
Suitable for use as control antibody for Type II 4-phosphatase siRNA (h): sc-44178, Type II 4-phosphatase shRNA Plasmid (h): sc-44178-SH and Type II 4-phosphatase shRNA (h) Lentiviral Particles: sc-44178-V.

Molecular Weight of Type II 4-phosphatase: 106 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-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).

DATA



Type II 4-phosphatase (3F2): sc-293234. Western blot analysis of human recombinant Type II 4-phosphatase fusion protein.

RESEARCH USE

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