

Type I 4-phosphatase (A-19): sc-12315

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.

CHROMOSOMAL LOCATION

Genetic locus: INPP4A (human) mapping to 2q11.2; Inpp4a (mouse) mapping to 1 B.

SOURCE

Type I 4-phosphatase (A-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Type I 4-phosphatase of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-12315 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Type I 4-phosphatase (A-19) is recommended for detection of Type I 4-phosphatase isoforms α and β of mouse, rat and 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)], 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).

Type I 4-phosphatase (A-19) is also recommended for detection of Type I 4-phosphatase isoforms α and β in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Type I 4-phosphatase siRNA (h): sc-44177, Type I 4-phosphatase siRNA (m): sc-39089, Type I 4-phosphatase shRNA Plasmid (h): sc-44177-SH, Type I 4-phosphatase shRNA Plasmid (m): sc-39089-SH, Type I 4-phosphatase shRNA (h) Lentiviral Particles: sc-44177-V and Type I 4-phosphatase shRNA (m) Lentiviral Particles: sc-39089-V.

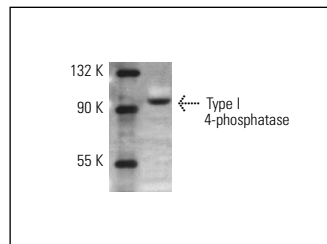
Molecular Weight of Type I 4-phosphatase: 104 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810, human platelet whole cell lysate: sc-363773 or rat heart extract: sc-2393.

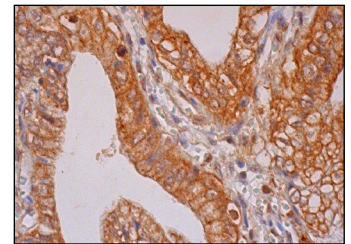
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Type I 4-phosphatase (A-19): sc-12315. Western blot analysis of Type I 4-phosphatase expression in rat skeletal muscle extract.



Type I 4-phosphatase (A-19): sc-12315. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

- Sharma, M., et al. 2008. A genetic variation in inositol polyphosphate 4 phosphatase a enhances susceptibility to asthma. *Am. J. Respir. Crit. Care Med.* 177: 712-719.
- Deng, J., et al. 2015. Identification of the protective role of DJ-1 in hypoglycemic astrocyte injury using proteomics. *J. Proteome Res.* 14: 2839-2848.

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.

MONOS
Satisfaction
Guaranteed

Try **Type I 4-phosphatase (E-2): sc-390549** or **Type I 4-phosphatase (D-10): sc-390550**, our highly recommended monoclonal alternatives to Type I 4-phosphatase (A-19).