

# Type II 4-phosphatase (N-20): sc-12318

## BACKGROUND

The inositol polyphosphate 4-phosphatases selectively remove the phosphate from the 4-position of various phosphatidylinositols, which generates 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,  $\alpha$  and  $\beta$ , which have been detected in human platelets, rat brain, heart, skeletal muscle and spleen; and all isoforms contain a conserved motif CKSAK-DRT, 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: INPP4B (human) mapping to 4q31.21; Inpp4b (mouse) mapping to 8 C2.

## SOURCE

Type II 4-phosphatase (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Type II 4-phosphatase of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-12318 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

Type II 4-phosphatase (N-20) is recommended for detection of type II 4-phosphatase of human origin and type II 4-phosphatase isoforms  $\alpha$  and  $\beta$  of mouse, rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

Type II 4-phosphatase (N-20) is also recommended for detection of type II 4-phosphatase in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Type II 4-phosphatase siRNA (h): sc-44178, Type II 4-phosphatase siRNA (m): sc-39093, Type II 4-phosphatase shRNA Plasmid (h): sc-44178-SH, Type II 4-phosphatase shRNA Plasmid (m): sc-39093-SH, Type II 4-phosphatase shRNA (h) Lentiviral Particles: sc-44178-V and Type II 4-phosphatase shRNA (m) Lentiviral Particles: sc-39093-V.

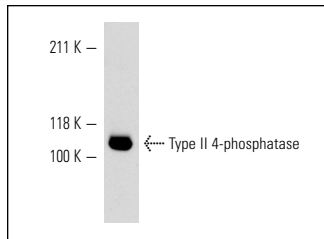
Molecular Weight of Type II 4-phosphatase: 106 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

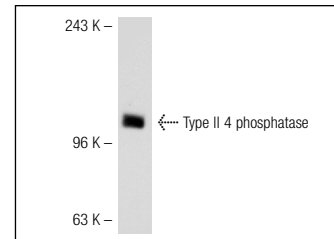
## RECOMMENDED SECONDARY REAGENTS

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.

## DATA



Type II 4-phosphatase (N-20): sc-12318. Western blot analysis of Type II 4-phosphatase expression in MCF7 whole cell lysate.



Type II 4-phosphatase (N-20): sc-12318. Western blot analysis of Type II 4-phosphatase expression in MCF7 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Gewinner, C., et al. 2009. Evidence that inositol polyphosphate 4-phosphatase type II is a tumor suppressor that inhibits PI3K signaling. *Cancer Cell* 16: 115-125.

## 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.



Try **Type II 4-phosphatase (3F2): sc-293234**, our highly recommended monoclonal alternative to Type II 4-phosphatase (N-20).