SANTA CRUZ BIOTECHNOLOGY, INC.

# PTG (N-19): sc-6582

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Protein phosphatase 1 (PP1) is a serine-threonine protein phosphatase that plays a central role in mediating the effects of Insulin on glucose and lipid metabolism. PTG (protein targeting to glycogen) was cloned from 3T3-L1 adipocytes as a protein that binds to the PP1 catalytic subunit. The human homolog of PTG, designated PPP1R5, has been shown to bind to PP1 and to modulate its specificity. PTEN/PPP1R5 shows 42% identity to the glycogen binding subunit, G(L), of rat liver PP1. PTG is expressed predominantly in Insulin-sensitive tissues, and it localizes PP1 to glycogen. PTG also has been shown to interact with several enzymes involved in the hormonal regulation of glycogen metabolism, including phosphorylase kinase, phosphorylase A and glycogen synthase. These data indicate a role for PTG in glycogen metabolism, possibly that of a molecular scaffold.

## REFERENCES


1. Cohen, P. 1989. The structure and regulation of protein phosphatases. Ann. Rev. Biochem. 58: 453-508.
2. Saltiel, A.R. 1996. Diverse signaling pathways in the cellular actions of Insulin. Am. J. Physiol. 270: E375-E385.
3. Doherty, M.J., Young, P.R. and Cohen, P.T. 1996. Amino acid sequence of a novel protein phosphatase 1 binding protein (R5) which is related to the liver- and muscle-specific glycogen binding subunits of protein phosphatase 1. FEBS Lett. 399: 339-343.
4. Armstrong, C.G., Browne, G.J., Cohen, P. and Cohen, P.T. 1997. PPP1R6, a novel member of the family of glycogen-targeting subunits of protein phosphatase 1. FEBS Lett. 418: 210-214.
5. Brady, M.J., Printen J.A., Mastick, C.C. and Saltiel, A.R. 1997. Role of protein targeting to glycogen (PTG) in the regulation of protein phosphatase-1 activity. J. Biol. Chem. 272: 20198-20204.
6. Printen, J.A., Brady, M.J. and Saltiel, A.R. 1997. PTG, a protein phosphatase-1 binding protein with a role in glycogen metabolism. Science 275: 1475-1478.


## CHROMOSOMAL LOCATION

Genetic locus: PPP1R3C (human) mapping to 10q23.32; Ppp1r3c (mouse) mapping to 19 C2.

## SOURCE

PTG (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PTG of mouse 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-6582 P, (100 µg 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

PTG (N-19) is recommended for detection of PTG 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), 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).

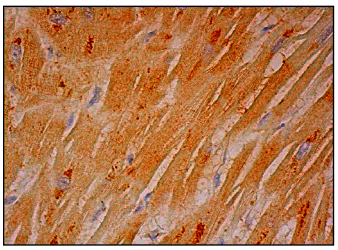
PTG (N-19) is also recommended for detection of PTG in additional species, including equine and porcine.

Suitable for use as control antibody for PTG siRNA (h): sc-44047, PTG siRNA (m): sc-152578, PTG shRNA Plasmid (h): sc-44047-SH, PTG shRNA Plasmid (m): sc-152578-SH, PTG shRNA (h) Lentiviral Particles: sc-44047-V and PTG shRNA (m) Lentiviral Particles: sc-152578-V.

## 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



PTG (N-19): sc-6582. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS


1. Jurczak, M.J., Danos, A.M., Rehrmann, V.R., Allison, M.B., Greenberg, C.C. and Brady, M.J. 2007. Transgenic overexpression of protein targeting to glycogen markedly increases adipocytic glycogen storage in mice. Am. J. Physiol. Endocrinol. Metab. 292: E952-E963.


## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.