

## PGs2 (D-18): sc-85098

### BACKGROUND

Polyglutamylation, polyglycylation and tyrosination are posttranslational modifications that Tubulin undergoes in order to perform at maximal function. Polyglutamylation is evolutionarily conserved from protists to mammals and is involved in several microtubule functions such as axonemal beating, stability of centrioles, neuronal differentiation and mediating the interaction between Tubulin and microtubule associated proteins. The neuronal Tubulin polyglutamylase is a complex that contains a TTL (Tubulin tyrosine ligase-like) domain through which it catalyzes the ligation of glutamate to Tubulins. The TTL domain contains ATP-grasp-like motifs that correspond to the ATP/Mg<sup>2+</sup> binding site typical of enzymes with ATP-dependent carboxylate-amine/thiol ligase activity. PGs2 (Tubulin polyglutamylase complex subunit 2), also known as C18orf10, is a 300 amino acid cytoplasmic protein that participates in the neuronal Tubulin polyglutamylase complex, along with PGs1, PGs3, PGs4 and PGs5. There are two isoforms of PGs2 that are produced as a result of alternative splicing events.

### REFERENCES

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2. Regnard, C., et al. 1996. Microtubules: functional polymorphisms of Tubulin and associated proteins (structural and motor MAP's). *C. R. Seances Soc. Biol. Fil.* 190: 255-268.
3. Bonnet, C., et al. 2001. Differential binding regulation of microtubule-associated proteins MAP1A, MAP1B, and MAP2 by Tubulin polyglutamyl-ation. *J. Biol. Chem.* 276: 12839-12848.
4. Regnard, C., et al. 2003. Characterisation of PGs1, a subunit of a protein complex co-purifying with Tubulin polyglutamylase. *J. Cell Sci.* 116: 4181-4190.
5. Yamada, S., et al. 2004. Expression profiling and differential screening between hepatoblastomas and the corresponding normal livers: identification of high expression of the PLK1 oncogene as a poor-prognostic indicator of hepatoblastomas. *Oncogene* 23: 5901-5911.
6. Petroziello, J., et al. 2004. Suppression subtractive hybridization and expression profiling identifies a unique set of genes overexpressed in non-small-cell lung cancer. *Oncogene* 23: 7734-7745.
7. Janke, C., et al. 2005. Tubulin polyglutamylase enzymes are members of the TTL domain protein family. *Science* 308: 1758-1762.

### CHROMOSOMAL LOCATION

Genetic locus: TPGS2 (human) mapping to 18q12.2; 5730494M16Rik (mouse) mapping to 18 A2.

### SOURCE

PGs2 (D-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PGs2 of human origin.

### PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85098 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PGs2 (D-18) is recommended for detection of PGs2 of human and rat origin, and 5730494M16Rik of mouse 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PGs2 (D-18) is also recommended for detection of PGs2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PGs2 siRNA (h): sc-76113, 5730494M16Rik siRNA (m): sc-140385, PGs2 shRNA Plasmid (h): sc-76113-SH, 5730494M16Rik shRNA Plasmid (m): sc-140385-SH, PGs2 shRNA (h) Lentiviral Particles: sc-76113-V and 5730494M16Rik shRNA (m) Lentiviral Particles: sc-140385-V.

Molecular Weight of PGs2: 33 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### 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.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.