

PGs2 (D-9): sc-514306

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/Mg²⁺ 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

1. Boucher, D., et al. 1994. Polyglutamyl-ation of Tubulin as a progressive regulator of *in vitro* interactions between the microtubule-associated protein Tau and Tubulin. *Biochemistry* 33: 12471-12477.
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 polyglutamylation. *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.

CHROMOSOMAL LOCATION

Genetic locus: TPGS2 (human) mapping to 18q12.2; Tpgs2 (mouse) mapping to 18 A2.

SOURCE

PGs2 (D-9) is a mouse monoclonal antibody raised against amino acids 48-261 mapping within an internal region of PGs2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PGs2 (D-9) is available conjugated to agarose (sc-514306 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514306 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514306 PE), fluorescein (sc-514306 FITC), Alexa Fluor[®] 488 (sc-514306 AF488), Alexa Fluor[®] 546 (sc-514306 AF546), Alexa Fluor[®] 594 (sc-514306 AF594) or Alexa Fluor[®] 647 (sc-514306 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514306 AF680) or Alexa Fluor[®] 790 (sc-514306 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PGs2 (D-9) is recommended for detection of PGs2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

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

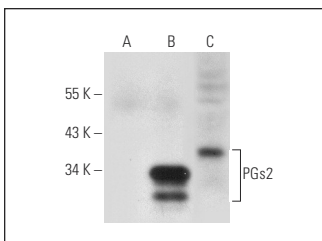
Molecular Weight of PGs2: 33 kDa.

Positive Controls: PGs2 (m): 293T Lysate: sc-118040, AN3 CA cell lysate: sc-24662 or Jurkat whole cell lysate: sc-2204.

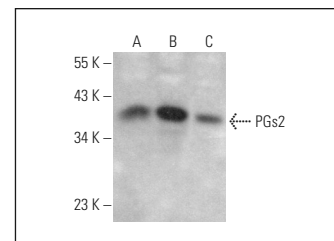
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



PGs2 (D-9): sc-514306. Western blot analysis of PGs2 expression in non-transfected 293T: sc-117752 (A), mouse PGs2 transfected 293T: sc-118040 (B) and Jurkat (C) whole cell lysates.



PGs2 (D-9): sc-514306. Western blot analysis of PGs2 expression in Jurkat (A), AN3 CA (B) and Caco-2 (C) whole cell lysates.

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.

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