

PGP (A-14): sc-241605

BACKGROUND

PGP (phosphoglycolate phosphatase), also known as PGPase, is a 321 amino acid enzyme belonging to the HAD-like hydrolase superfamily and the CbbZ/cbbZ/gph/yieH family. PGP is detected in all tissues including red cells, lymphocytes and cultured fibroblasts, with highest activity found in skeletal and cardiac muscle. PGP is considered an important regulatory enzyme on oxygen transport by indirectly affecting the level of red cell 2,3-diphosphoglycerate. The gene encoding PGP maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Barker, R.F., et al. 1978. Genetic polymorphism of human phosphoglycolate phosphatase (PGP). *Ann. Hum. Genet.* 42: 143-151.
2. Povey, S., et al. 1980. Assignment of the human locus determining phosphoglycolate phosphatase (PGP) to chromosome 16. *Ann. Hum. Genet.* 43: 241-248.
3. Sparkes, R.S., et al. 1980. Assignment of the human gene for phosphoglycolate phosphatase to chromosome 16. *Hum. Genet.* 54: 159-161.
4. Turner, V.S., et al. 1981. Biochemical characterization of the genetic variants of human phosphoglycolate phosphatase (PGP). *Ann. Hum. Genet.* 45: 121-127.
5. Brink, W., et al. 1981. Population, formal genetics, and linkage relations of the phosphoglycolate phosphatase (PGP)—E.C.3.1.3.18. *Hum. Genet.* 59: 386-388.
6. Zecher, R., et al. 1982. Phosphotransferase properties of human erythrocyte phosphoglycolate phosphatase. *Int. J. Biochem.* 14: 771-774.

CHROMOSOMAL LOCATION

Genetic locus: PGP (human) mapping to 16p13.3; Pgp (mouse) mapping to 17 A3.3.

SOURCE

PGP (A-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PGP of human 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-241605 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PGP (A-14) is recommended for detection of PGP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

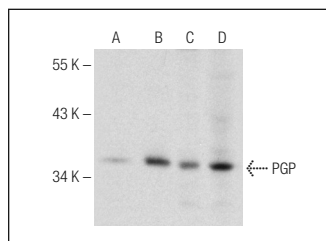
PGP (A-14) is also recommended for detection of PGP in additional species, including bovine and porcine.

Suitable for use as control antibody for PGP siRNA (m): sc-108319, PGP shRNA Plasmid (m): sc-108319-SH and PGP shRNA (m) Lentiviral Particles: sc-108319-V.

Molecular Weight of PGP: 34 kDa.

Positive Controls: PGP (m): 293T Lysate: sc-117835, human heart extract: sc-363763 or human skeletal muscle extract: sc-363776.

DATA



PGP (A-14): sc-241605. Western blot analysis of PGP expression in non-transfected: sc-117752 (A) and mouse PGP transfected: sc-117835 (B) 293T whole cell lysates and human heart (C) and human skeletal muscle (D) tissue extracts.

SELECT PRODUCT CITATIONS

1. Gu, J., et al. 2014. Murine double minute 2 siRNA and wild-type p53 gene therapy enhances sensitivity of the SKOV3/DDP ovarian cancer cell line to cisplatin chemotherapy *in vitro* and *in vivo*. *Cancer Lett.* 343: 200-209.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


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Try **PGP (E-10): sc-390883**, our highly recommended monoclonal alternative to PGP (A-14).