

PGK1 (Y-12): sc-17943

BACKGROUND

Phosphoglycerate kinases 1/2 (PGK1/2, ATP:3-phospho-D-glycerate 1-phosphotransferase, EC 2.7.2.3) are somatically expressed, glycolytic enzymes that catalyze the transfer of a phosphoryl group from the acyl phosphate of 1,3-bisphosphoglycerate to ADP, thereby forming ATP and 3-phosphoglycerate. The human PGK gene is interrupted by 10 introns and spans 23 kilobases, and is X chromosome-linked at position Xq21.1, a region implicated in prostate cancer, androgen insensitivity, perineal hypospadias, and other genetic abnormalities. In addition to influencing glycolysis, the PGK1 is secreted by tumor cells and contributes to proliferative angiogenic processes as a disulfide reductase. PGK1 mediated reduction of disulfide bonds in the serine proteinase plasmin initiates the release of the tumor blood vessel inhibitor angiostatin, an event that is critical for blood vessel formation or angiogenesis in tumor expansion and metastasis.

CHROMOSOMAL LOCATION

Genetic locus: PGK1 (human) mapping to Xq21.1; Pkg1 (mouse) mapping to X D.

SOURCE

PGK1 (Y-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PGK1 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-17943 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PGK1 (Y-12) is recommended for detection of PGK1 of mouse, rat, human and 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), 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).

PGK1 (Y-12) is also recommended for detection of PGK1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for PGK1 siRNA (h): sc-36215, PGK1 siRNA (m): sc-36216, PGK1 shRNA Plasmid (h): sc-36215-SH, PGK1 shRNA Plasmid (m): sc-36216-SH, PGK1 shRNA (h) Lentiviral Particles: sc-36215-V and PGK1 shRNA (m) Lentiviral Particles: sc-36216-V.

Molecular Weight of PGK1: 45 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or JAR cell lysate: sc-2276.

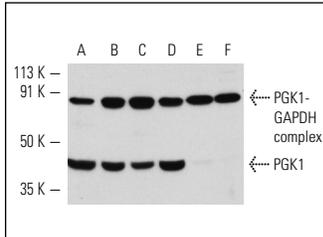
RESEARCH USE

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

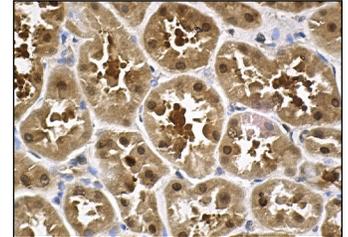
STORAGE

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

DATA



PGK1 (Y-12): sc-17943. Western blot analysis of PGK1 expression in FHs 173We (A), HeLa (B), JAR (C), JEG-3 (D) and NIH/3T3 (E) whole cell lysates and mouse embryo tissue extract (F).



PGK1 (Y-12): sc-17943. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear and cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Yu, X., et al. 2006. The regulation of exosome secretion: a novel function of the p53 protein. *Cancer Res.* 66: 4795-4801.
2. Mazzoni, C., et al. 2009. PGK1, the gene encoding the glycolytic enzyme phosphoglycerate kinase, acts as a multicopy suppressor of apoptotic phenotypes in *S. cerevisiae*. *Yeast* 26: 31-37.
3. Yu, X., et al. 2009. The regulation of the endosomal compartment by p53 the tumor suppressor gene. *FEBS J.* 276: 2201-2212.
4. Pérez-Pérez, R., et al. 2012. Uncovering suitable reference proteins for expression studies in human adipose tissue with relevance to obesity. *PLoS ONE* 7: e30326.
5. Marzano, V., et al. 2012. Proteomic profiling of ATM kinase proficient and deficient cell lines upon blockage of proteasome activity. *J. Proteomics* 75: 4632-4646.

PROTOCOLS

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

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