

PIG-K (G-6): sc-398611

BACKGROUND

Phosphatidylinositol-glycans (PIGs) are multi-pass transmembrane proteins that localize to the endoplasmic reticulum. PIGs exhibit various functions but all are crucial for the biosynthesis of the glycosylphosphatidylinositol (GPI)-anchor. Some PIG proteins are components of the GPI transamidase (GPIT) complex and play a role in the recognition of either the GPI attachment signal or the lipid portion of GPI. Other PIGs belong to the glycosyltransferase complex and function in the transfer of N-acetylglucosamine (GlcNAc) to phosphatidylinositol (PI). A variety of other PIGs play distinct roles in GPI synthesis. PIG-K (also called hGPI8) is the catalytic subunit of GPIT, a multisubunit membrane-bound complex that recognizes the C-terminal signal sequences on proproteins, cleaves them and replaces them with specific GPI lipids. PIG-K functions as a cysteine protease and contains a Cis-His catalytic dyad. It is responsible for cleaving the signal sequence on proproteins and forming the amide bond between GPI and the protein.

REFERENCES

1. Kodukula, K., et al. 1995. Processing of nascent proteins to glycosylphosphatidylinositol-anchored forms in cell-free systems. *Methods Enzymol.* 250: 536-547.
2. Ramalingam, S., et al. 1996. COOH-terminal processing of nascent polypeptides by the glycosylphosphatidylinositol transamidase in the presence of hydrazine is governed by the same parameters as glycosylphosphatidylinositol addition. *Proc. Natl. Acad. Sci. USA* 93: 7528-7533.
3. Benghezal, M., et al. 1996. Yeast Gpi8p is essential for GPI anchor attachment on to proteins. *EMBO J.* 15: 6575-6583.

CHROMOSOMAL LOCATION

Genetic locus: PIGK (human) mapping to 1p31.1; Pigk (mouse) mapping to 3 H3.

SOURCE

PIG-K (G-6) is a mouse monoclonal antibody raised against amino acids 96-395 mapping at the C-terminus of PIG-K of human origin.

PRODUCT

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

PIG-K (G-6) is available conjugated to agarose (sc-398611 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398611 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398611 PE), fluorescein (sc-398611 FITC), Alexa Fluor® 488 (sc-398611 AF488), Alexa Fluor® 546 (sc-398611 AF546), Alexa Fluor® 594 (sc-398611 AF594) or Alexa Fluor® 647 (sc-398611 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398611 AF680) or Alexa Fluor® 790 (sc-398611 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

PIG-K (G-6) is recommended for detection of PIG-K 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 PIG-K siRNA (h): sc-62804, PIG-K siRNA (m): sc-62805, PIG-K shRNA Plasmid (h): sc-62804-SH, PIG-K shRNA Plasmid (m): sc-62805-SH, PIG-K shRNA (h) Lentiviral Particles: sc-62804-V and PIG-K shRNA (m) Lentiviral Particles: sc-62805-V.

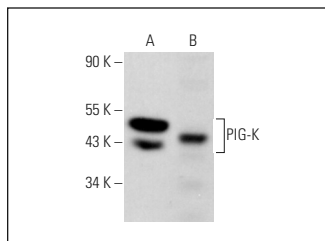
Molecular Weight of PIG-K: 43 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, HL-60 whole cell lysate: sc-2209 or Jurkat whole cell lysate: sc-2204.

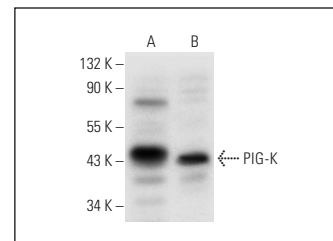
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PIG-K (G-6): sc-398611. Western blot analysis of PIG-K expression in Jurkat (A) and HL-60 (B) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



PIG-K (G-6): sc-398611. Western blot analysis of PIG-K expression in HEK293 (A) and Jurkat (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lam, C., et al. 2015. Expanding the clinical and molecular characteristics of PIGT-CDG, a disorder of glycosylphosphatidylinositol anchors. *Mol. Genet. Metab.* 115: 128-140.

STORAGE

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