

PIG-K (V-20): sc-54973

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 multi-subunit 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 proteins and forming the amide bond between GPI and the protein.

REFERENCES

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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. 1997. Yeast Gpi8p is essential for GPI anchor attachment on to proteins. *EMBO J.* 15: 6575-6583.
4. Meyer, U., et al. 2002. The glycosylphosphatidylinositol (GPI) signal sequence of human placental alkaline phosphatase is not recognized by human Gpi8p in the context of the yeast GPI anchoring machinery. *Mol. Microbiol.* 46: 745-748.
5. Nagamune, K., et al. 2003. GPI transamidase of *Trypanosoma brucei* has two previously uncharacterized (trypanosomatid transamidase 1 and three common subunits. *Proc. Natl. Acad. Sci. USA* 100: 10682-10687.

CHROMOSOMAL LOCATION

Genetic locus: PIGK (human) mapping to 1p31.1; Pigk (mouse) mapping to 3 H4.

SOURCE

PIG-K (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PIG-K 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-54973 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PIG-K (V-20) is recommended for detection of PIG-K of mouse, rat and human 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).

PIG-K (V-20) is also recommended for detection of PIG-K in additional species, including equine, canine, bovine, porcine and avian.

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: Mouse liver extract: sc-2256.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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 or our catalog for detailed protocols and support products.