

PIG-B (Y-19): sc-54301

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 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 including mannosylation of the GPI-anchor. PIG-B, an α 1,2-mannosyltransferase, is also referred to as GPI mannosyltransferase III (GPI-MT-III). It is responsible for adding the third mannose in the synthesis of the GPI anchor. PIG-B transfers the mannose from dolichol-phosphate-mannose (Dol-P-Man) and for this reason, it is a member of the Dol-P-Man-dependent mannosyltransferase family.

REFERENCES

1. Takahashi, M., et al. 1996. PIG-B, a membrane protein of the endoplasmic reticulum with a large luminal domain, is involved in transferring the third mannose of the GPI anchor. *EMBO J.* 15: 4254-4261.
2. Nagamune, K., et al. 2000. Critical roles of glycosylphosphatidylinositol for *Trypanosoma brucei*. *Proc. Natl. Acad. Sci. USA* 97: 10336-10341.
3. Maeda, Y., et al. 2001. PIG-M transfers the first mannose to glycosylphosphatidylinositol on the luminal side of the ER. *EMBO J.* 20: 250-261.
4. Grimme, S.J., et al. 2001. The essential Smp3 protein is required for addition of the side-branching fourth mannose during assembly of yeast glycosylphosphatidylinositols. *J. Biol. Chem.* 276: 27731-27739.
5. Delorenzi, M., et al. 2002. Genes for glycosylphosphatidylinositol toxin biosynthesis in *Plasmodium falciparum*. *Infect. Immun.* 70: 4510-4522.
6. Oriol, R., et al. 2002. Common origin and evolution of glycosyltransferases using Dol-P-monosaccharides as donor substrate. *Mol. Biol. Evol.* 19: 1451-1463.
7. Ikezawa, H. 2002. Glycosylphosphatidylinositol (GPI)-anchored proteins. *Biol. Pharm. Bull.* 25: 409-417.

CHROMOSOMAL LOCATION

Genetic locus: PIGB (human) mapping to 15q21.3; Pigb (mouse) mapping to 9 D.

SOURCE

PIG-B (Y-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PIG-B of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54301 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PIG-B (Y-19) is recommended for detection of PIG-B 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), 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).

PIG-B (Y-19) is also recommended for detection of PIG-B in additional species, including equine and bovine.

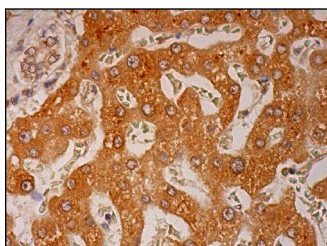
Suitable for use as control antibody for PIG-B siRNA (h): sc-72355, PIG-B siRNA (m): sc-72356, PIG-B shRNA Plasmid (h): sc-72355-SH, PIG-B shRNA Plasmid (m): sc-72356-SH, PIG-B shRNA (h) Lentiviral Particles: sc-72355-V and PIG-B shRNA (m) Lentiviral Particles: sc-72356-V.

Molecular Weight of PIG-B: 65 kDa.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PIG-B (Y-19): sc-54301. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes and bile duct cells.

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.