SANTA CRUZ BIOTECHNOLOGY, INC.

PIG-L (P-12): sc-165240

BACKGROUND

Phosphatidylinositol-glycans (PIGs) are transmembrane proteins that localize to endoplasmic reticulum (ER). PIGs are crucial for the synthesis of N-acetyl-glucosaminyl-phosphatidylinositol (GlcNAc-PI), a very early intermediate in glycosylphosphatidylinositol (GPI)-anchor biosynthesis. 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. PIG-L (phosphatidylinositol glycan anchor biosynthesis, class L), also known as N-acetyl-glucosaminyl-phosphatidylinositol de-N-acetylase, is a 252 amino acid ER single-pass membrane protein. Encoded by a gene that maps to human chromosome 17p11.2, PIG-L shares 77% identity with rat PIG-L, and both are orthologs of *Saccharomyces cerevisiae* Gpi12, which results in a lethal phenotype when disrupted. Enhanced by metal ions, in particular Mn^{2+} and Ni^{2+}, PIG-L catalyzes the second step of GPI biosynthesis, which is the de-N-acetylation of GlcNAc-PI.

REFERENCES

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2. Nakamura, N., et al. 1997. Expression cloning of PIG-L, a candidate N-acetylglucosaminyl-phosphatidylinositol deacetylase. J. Biol. Chem. 272: 15834-15840.
3. Watanabe, R., et al. 1998. The first step of glycosylphosphatidylinositol biosynthesis is mediated by a complex of PIG-A, PIG-H, PIG-C and GPI1. EMBO J. 17: 877-885.
4. Watanabe, R., et al. 1999. Mammalian PIG-L and its yeast homologue Gpi12p are N-acetylglucosaminylphosphatidylinositol de-N-acetylases essential in glycosylphosphatidylinositol biosynthesis. Biochem. J. 339: 185-192.
5. Ferguson, M.A., et al. 1999. The GPI biosynthetic pathway as a therapeutic target for African sleeping sickness. Biochim. Biophys. Acta 1455: 327-340.
6. Gordon, V.M., et al. 1999. Clostridium septicum α toxin uses glycosylphosphatidylinositol-anchored protein receptors. J. Biol. Chem. 274: 27274-27280.
7. Abrami, L., et al. 2001. Cross-talk between caveolae and glycosylphosphatidylinositol-rich domains. J. Biol. Chem. 276: 30729-30736.
8. Chang, T., et al. 2002. Cloning of *Trypanosoma brucei* and *Leishmania major* genes encoding the GlcNAc-phosphatidylinositol de-N-acetylase of glycosylphosphatidylinositol biosynthesis that is essential to the African sleeping sickness parasite. J. Biol. Chem. 277: 50176-50182.
9. McCarthy, A.A., et al. 2004. Crystal structure of MshB from *Mycobacterium tuberculosis*, a deacetylase involved in mycothiol biosynthesis. J. Mol. Biol. 335: 1131-1141.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: PIGL (human) mapping to 17p11.2; Pigl (mouse) mapping to 11 B2.

SOURCE

PIG-L (P-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of PIG-L 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-165240 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PIG-L (P-12) is recommended for detection of PIG-L 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); non cross-reactive with other PIG family members.

Suitable for use as control antibody for PIG-L siRNA (h): sc-93912, PIG-L siRNA (m): sc-152252, PIG-L shRNA Plasmid (h): sc-93912-SH, PIG-L shRNA Plasmid (m): sc-152252-SH, PIG-L shRNA (h) Lentiviral Particles: sc-93912-V and PIG-L shRNA (m) Lentiviral Particles: sc-152252-V.

Molecular Weight of PIG-L: 29 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.

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.