SANTA CRUZ BIOTECHNOLOGY, INC.

# PIG-T (K-15): sc-54985

## 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-T is a component 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-T is disulfide-linked to PIG-K and functions to stabilize the complex and promote GPIT activity. Overexpression of PIG-T is associated with breast cancer.

## REFERENCES


1. Nagamune, K., et al. 2003. GPI transamidase of *Trypanosoma brucei* has two previously uncharacterized (trypanosomatid transamidase 1 and 2) and three common subunits. Proc. Natl. Acad. Sci. USA 100: 10682-10687.
2. Hong, Y., et al. 2003. Human PIG-U and yeast Cdc91p are the fifth subunit of GPI transamidase that attaches GPI-anchors to proteins. Mol. Biol. Cell 14: 1780-1789.
3. Ohishi, K., et al. 2003. Two subunits of glycosylphosphatidylinositol transamidase, GPI8 and PIG-T, form a functionally important intermolecular disulfide bridge. J. Biol. Chem. 278: 13959-13967.
4. Vainauskas, S., et al. 2004. A conserved proline in the last transmembrane segment of GAA1 is required for glycosylphosphatidylinositol (GPI) recognition by GPI transamidase. J. Biol. Chem. 279: 6540-6545.
5. Wu, G., et al. 2006. Overexpression of glycosylphosphatidylinositol (GPI) transamidase subunits phosphatidylinositol glycan class T and/or GPI anchor attachment 1 induces tumorigenesis and contributes to invasion in human breast cancer. Cancer Res. 66: 9829-9836.
6. Bowman, S.M., et al. 2006. Mutational analysis of the glycosylphosphatidylinositol (GPI) anchor pathway demonstrates that GPI-anchored proteins are required for cell wall biogenesis and normal hyphal growth in *Neurospora crassa*. Eukaryotic Cell 5: 587-600.
7. Ho, J.C., et al. 2006. Increased expression of glycosyl-phosphatidylinositol anchor attachment protein 1 (GPAA1) is associated with gene amplification in hepatocellular carcinoma. Int. J. Cancer 119: 1330-1337.
8. Nicholson, T.B., et al. 2007. Identification of a novel functional specificity signal within the GPI anchor signal sequence of carcinoembryonic antigen. J. Cell Biol. 177: 211-218.
9. Pittet, M., et al. 2007. Biosynthesis and function of GPI proteins in the yeast *Saccharomyces cerevisiae*. Biochim. Biophys. Acta 1771: 405-420.


## 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: Pigt (mouse) mapping to 2 H3.

## SOURCE

PIG-T (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PIG-T of mouse 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-54985 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PIG-T (K-15) is recommended for detection of PIG-T of mouse and rat 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-T (K-15) is also recommended for detection of PIG-T in additional species, including equine and porcine.

Suitable for use as control antibody for PIG-T siRNA (m): sc-62811, PIG-T shRNA Plasmid (m): sc-62811-SH and PIG-T shRNA (m) Lentiviral Particles: sc-62811-V.

Molecular Weight of PIG-T: 62 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.