

# GPAA1 (F-12): sc-373710

## BACKGROUND

Glycosylphosphatidylinositol (GPI) acts as a membrane anchor for cell surface proteins. Glycosylphosphatidylinositol anchor attachment 1 protein (GPAA1), also designated GPI anchor attachment protein 1 or GAA1 protein homolog, is a membrane protein localized to the endoplasmic reticulum which is involved in GPI-anchor biosynthesis. GPAA1 is crucial for GPI-anchoring of precursor proteins and catalyzes the attachment of GPI to proteins containing a C-terminal GPR attachment signal. GAA1 contains an N-terminal signal sequence, one cAMP- and cGMP-dependent protein kinase phosphorylation site, two potential N-glycosylation sites, one leucine zipper pattern and eight putative transmembrane domains. GPAA1 is ubiquitously expressed and shows higher levels of expression in fetal tissues than in adult tissues.

## CHROMOSOMAL LOCATION

Genetic locus: GPAA1 (human) mapping to 8q24.3; Gpaa1 (mouse) mapping to 15 D3.

## SOURCE

GPAA1 (F-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 62-91 near the N-terminus of GPAA1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GPAA1 (F-12) is available conjugated to agarose (sc-373710 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373710 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373710 PE), fluorescein (sc-373710 FITC), Alexa Fluor® 488 (sc-373710 AF488), Alexa Fluor® 546 (sc-373710 AF546), Alexa Fluor® 594 (sc-373710 AF594) or Alexa Fluor® 647 (sc-373710 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373710 AF680) or Alexa Fluor® 790 (sc-373710 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373710 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

GPAA1 (F-12) is recommended for detection of GPAA1 isoform 1 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 GPAA1 siRNA (h): sc-60715, GPAA1 siRNA (m): sc-60716, GPAA1 shRNA Plasmid (h): sc-60715-SH, GPAA1 shRNA Plasmid (m): sc-60716-SH, GPAA1 shRNA (h) Lentiviral Particles: sc-60715-V and GPAA1 shRNA (m) Lentiviral Particles: sc-60716-V.

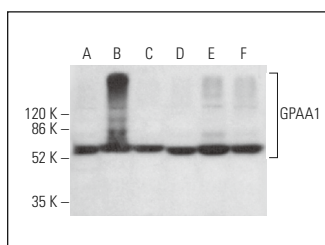
Molecular Weight of GPAA1: 70 kDa.

Positive Controls: A-10 cell lysate: sc-3806, MCF7 whole cell lysate: sc-2206 or NIH/3T3 whole cell lysate: sc-2210.

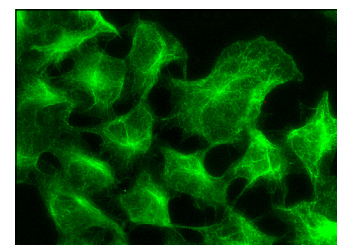
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



GPAA1 (F-12): sc-373710. Western blot analysis of GPAA1 expression in A-10 (A), MCF7 (B), NIH/3T3 (C), WEHI-231 (D), C2C12 (E) and 3611-RF (F) whole cell lysates.



GPAA1 (F-12): sc-373710. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- 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.
- Li, Y., et al. 2020. A novel variant in GPAA1, encoding a GPI transamidase complex protein, causes inherited vascular anomalies with various phenotypes. *Hum. Genet.* 139: 1499-1511.
- Wei, X., et al. 2024. Proteomic screens of SEL1L-HRD1 ER-associated degradation substrates reveal its role in glycosylphosphatidylinositol-anchored protein biogenesis. *Nat. Commun.* 15: 659.

## 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](http://www.scbt.com) for detailed protocols and support products.

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