# GGTase-IIβ (B-12): sc-365901



The Power to Question

## **BACKGROUND**

Eukaryotic cells contain three distinct prenyltransferases that catalyze the attachment of a thioether-linked 15-carbon farnesyl group or 20-carbon geranylgeranyl group to C-terminal cysteine residues. Geranylgeranyltransferase type I (GGTase-I, PGGTase-I) catalyzes the nucleophilic substitution reaction between geranylgeranyl diphosphate (GGPP) and a protein-derived thiol to form the thioether linkage. The candidate protein contains a C-terminal CAAX motif in which "A" is an aliphatic amino acid and "X" is leucine. Geranylgeranylation is necessary for the TGF $\beta$ 1 signaling pathway, which involves phosphatidylcholine-specific phospholipase and a protein kinase C. Human GGTase-I contains an  $\alpha$  subunit and a  $\beta$  subunit. Geranylgeranyl-transferase type II (GGTase-II) is a heterodimer that catalyzes the transfer of two 20-carbon geranylgeranyl groups from geranylgeranyl pyrophosphate onto C-terminal cysteine residues of Rab GTPases, which is required for the activity of Rab proteins. GGTase-II also contains an  $\alpha$  subunit and a  $\beta$  subunit.

## **CHROMOSOMAL LOCATION**

Genetic locus: RABGGTB (human) mapping to 1p31.1; Rabggtb (mouse) mapping to 3 H3.

## **SOURCE**

GGTase-IIβ (B-12) is a mouse monoclonal antibody raised against amino acids 139-331 mapping at the C-terminus of GGTase-IIβ of human origin.

## **PRODUCT**

Each vial contains 200  $\mu g \; lg G_{2b}$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

#### **STORAGE**

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

# **APPLICATIONS**

GGTase-II $\beta$  (B-12) is recommended for detection of GGTase-II $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for GGTase-II $\beta$  siRNA (h): sc-45437, GGTase-II $\beta$  siRNA (m): sc-45438, GGTase-II $\beta$  shRNA Plasmid (h): sc-45437-SH, GGTase-II $\beta$  shRNA Plasmid (m): sc-45438-SH, GGTase-II $\beta$  shRNA (h) Lentiviral Particles: sc-45437-V and GGTase-II $\beta$  shRNA (m) Lentiviral Particles: sc-45438-V.

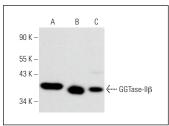
Molecular Weight of GGTase-IIB: 37 kDa.

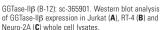
Positive Controls: Neuro-2A whole cell lysate: sc-364185, RT-4 whole cell lysate: sc-364257 or Jurkat whole cell lysate: sc-2204.

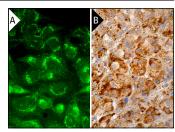
## **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG $\kappa$  BP-HRP: sc-516102 or m-lgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> 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-lgG $\kappa$  BP-FITC: sc-516140 or m-lgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-lgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

#### DATA







GGTase-IIß (B-12): sc-365901. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded adrenal gland tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- 1. Arora, D.K., et al. 2012. Rab-geranylgeranyl transferase regulates glucose-stimulated Insulin secretion from pancreatic  $\beta$  cells. Islets 4: 354-358.
- Abdullah, M.I., et al. 2017. Inhibition of the mevalonate pathway augments the activity of pitavastatin against ovarian cancer cells. Sci. Rep. 7: 8090
- Wang, X., et al. 2021. Inhibition of the miR-155 and protein prenylation feedback loop alleviated acute graft-versus-host disease through regulating the balance between T helper 17 and Treg cells. Transpl. Immunol. 69: 101461.

## **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

## **PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.