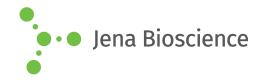
## **DATA SHEET**





## **■** GGTase-II (RabGGTase)

Protein geranylgeranyltransferase type II,  $\alpha$ - and  $\beta$ -subunit rat, recombinant, *E. coli* 

Cat. No.	Amount
PR-103	50 μg

For general laboratory use.

Shipping: shipped on dry ice

Storage Conditions: store at -80 °C

Additional Storage Conditions: avoid freeze/thaw cycles

Shelf Life: 12 months

Molecular Weight:  $\alpha$ : 50 kDa,  $\beta$ : 38 kDa Accession number: Q08602 / Q08603

Purity: > 90 % (SDS-PAGE)

Form: liquid (Supplied in 50 mM Tris-HCl pH 7.2, 40 mM NaCl and 5

mM DTT and 5 µM ZnCl<sub>2</sub>)

## **Description:**

GGTase-II (Geranylgeranyltransferase-II) catalyzes the transfer of geranylgeranyl moiety onto two C-terminal cysteines of Rab proteins. Composed of an  $\alpha$  and  $\beta$  heterodimer (50 and 38 kDa, respectively) and requires Rab escort protein for its catalytic activity. GGTase-II was shown to exhibit higher affinity towards geranylgeranyl pyrophosphate ( $K_d = 8 \text{ nM}$ ) than farnesyl pyrophosphate ( $K_d = 60 \text{ nM}$ ). Like FTase and GGTase-I, RabGGT functions as a heterodimer. The α subunit has 27% identity to that of CaaX prenylases but contains additional domains, while the  $\beta$  subunit shows 29% identity to that of FTase. The protein substrates of RabGGT have heterogeneous C termini that usually contain two cysteine residues (CXC), both of which are modified by geranylgeranyl groups. Unlike the CaaX prenylases, RabGGT requires specific accessory proteins known as REPs to guide the interaction with its targets. Some farnesyltransferase inhibitors (FTIs) were identified to inhibit RabGGT activity and induce p53 independent apoptosis in C. elegans.

## Selected References:

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Thomä et al. (2000) Phosphoisoprenoid binding specificity of geranylgeranyltransferase type II. Biochemistry-US 39:12043.

Casey et al. (1996) Protein prenyltransferases. J. Biol. Chem. 271:5289.

Watanabe *et al.* (2008) Inhibitors of Protein Geranylgeranyltransferase I and Rab Geranylgeranyltransferase Identified from a Library of Allenoate-derived Compounds. *J. Biol. Chem.* **283 (15)**:9571-9579.