SANTA CRUZ BIOTECHNOLOGY, INC.

GODZ (H-2): sc-514702

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Golgi-specific DHHC (Asp-His-His-Cys) zinc finger protein (GODZ), also known as, Palmitoyltransferase ZDHHC3 or Zinc finger protein 373, is a 327 amino acid protein member of the DHHC palmitoyltransferase family. Localized to the Golgi apparatus membrane, GODZ contains one DHHC-type zinc finger, which is necessary for its palmitoyltransferase activity. GODZ has been implicated in the palmitoylation and regulated trafficking of diverse substrates that function various inhibitory and excitatory synapses. Specifically, it palmitoylates the γ subunit 2 of $GABA_A$ receptors, which leads to normal synaptic GABAergic inhibitory function. GODZ also palmitoylates glutamate receptors GRIA1 and GRIA2, which leads to their retention in Golgi. Two isoforms of GODZ exist as a result of alternative splicing events.

REFERENCES

1. Uemura, T., et al. 2002. Isolation and characterization of Golgi apparatus-specific GODZ with the DHHC zinc finger domain. Biochem. Biophys. Res. Commun. 296: 492-496.
2. Coyle, J.E. and Nikolov, D.B. 2003. GABARAP: lessons for synaptogenesis. Neuroscientist 9: 205-216.
3. Keller, C.A., et al. 2004. The γ2 subunit of $GABA_A$ receptors is a substrate for palmitoylation by GODZ. J. Neurosci. 24: 5881-5891.
4. Hayashi, T., et al. 2005. Differential regulation of AMPA receptor subunit trafficking by palmitoylation of two distinct sites. Neuron 47: 709-723.
5. Fang, C., et al. 2006. GODZ-mediated palmitoylation of $GABA_A$ receptors is required for normal assembly and function of GABAergic inhibitory synapses. J. Neurosci. 26: 12758-12768.
6. Chen, Z.W. and Olsen, R.W. 2007. $GABA_A$ receptor associated proteins: a key factor regulating $GABA_A$ receptor function. J. Neurochem. 100: 279-294.
7. Kanematsu, T., et al. 2007. Regulation of $GABA_A$-receptor surface expression with special reference to the involvement of GABARAP ($GABA_A$ receptor-associated protein) and PRIP (phospholipase C-related, but catalytically inactive protein). J. Pharmacol. Sci. 104: 285-292.

CHROMOSOMAL LOCATION

Genetic locus: ZDHHC3 (human) mapping to 3p21.31; Zdhhc3 (mouse) mapping to 9 F4.

SOURCE

GODZ (H-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-24 within an N-terminal cytoplasmic domain of GODZ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514702 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GODZ (H-2) is recommended for detection of GODZ 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 GODZ siRNA (h): sc-75158, GODZ siRNA (m): sc-75159, GODZ shRNA Plasmid (h): sc-75158-SH, GODZ shRNA Plasmid (m): sc-75159-SH, GODZ shRNA (h) Lentiviral Particles: sc-75158-V and GODZ shRNA (m) Lentiviral Particles: sc-75159-V.

Molecular Weight (predicted) of GODZ: 37 kDa.

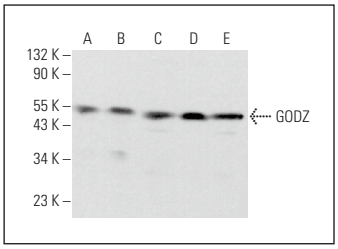
Molecular Weight (observed) of GODZ: 49 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, T98G cell lysate: sc-2294 or HL-60 whole cell lysate: sc-2209.

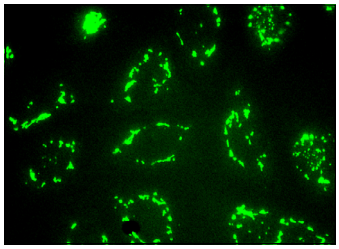
RECOMMENDED SUPPORT REAGENTS

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



GODZ (H-2): sc-514702. Western blot analysis of GODZ expression in U-87 MG (**A**), HeLa (**B**), T98G (**C**), F9 (**D**) and HL-60 (**E**) whole cell lysates.



GODZ (H-2): sc-514702. Immunofluorescence staining of methanol-fixed HeLa cells showing golgi apparatus localization.

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 for detailed protocols and support products.