

# GDE1 (L-25): sc-133615

## BACKGROUND

GDE1 (glycerophosphodiester phosphodiesterase 1), also known as MIR16, is a 331 amino acid multi-pass membrane protein that localizes to both the membrane and the cytoplasm and contains one GPPD domain. Expressed in a wide variety of tissues, GDE1 uses magnesium as a cofactor to catalyze the conversion of 1-(sn-glycero-3-phospho)-1D-myo-inositol to myo-inositol and sn-glycerol 3-phosphate, an event that is modulated by G protein signaling pathways and provides a link between phosphoinositide metabolism and G protein signal transduction. The gene encoding GDE1 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

## REFERENCES

- Zheng, B., Chen, D. and Farquhar, M.G. 2000. MIR16, a putative membrane glycerophosphodiester phosphodiesterase, interacts with RGS16. *Proc. Natl. Acad. Sci. USA* 97: 3999-4004.
- Zheng, B., Berrie, C.P., Corda, D. and Farquhar, M.G. 2003. GDE1/MIR16 is a glycerophosphoinositol phosphodiesterase regulated by stimulation of G protein-coupled receptors. *Proc. Natl. Acad. Sci. USA* 100: 1745-1750.
- Fisher, E., Almaguer, C., Holic, R., Griac, P. and Patton-Vogt, J. 2005. Glycerophosphocholine-dependent growth requires Gde1p (YPL110c) and Git1p in *Saccharomyces cerevisiae*. *J. Biol. Chem.* 280: 36110-36117.
- Bachmann, A.S., Duennebier, F.F. and Mocz, G. 2006. Genomic organization, characterization, and molecular 3D model of GDE1, a novel mammalian glycerophosphoinositol phosphodiesterase. *Gene* 371: 144-153.
- Ma, J., Dempsey, A.A., Stamatiou, D., Marshall, K.W. and Liew, C.C. 2007. Identifying leukocyte gene expression patterns associated with plasma lipid levels in human subjects. *Atherosclerosis* 191: 63-72.
- Yanaka, N. 2007. Mammalian glycerophosphodiester phosphodiesterases. *Biosci. Biotechnol. Biochem.* 71: 1811-1818.

## CHROMOSOMAL LOCATION

Genetic locus: GDE1 (human) mapping to 16p12.3; Gde1 (mouse) mapping to 7 F2.

## SOURCE

GDE1 (L-25) is an affinity purified rabbit polyclonal antibody raised against synthetic GDE1 peptide of human origin.

## PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## RESEARCH USE

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

## APPLICATIONS

GDE1 (L-25) is recommended for detection of GDE1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), 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 GDE1 siRNA (h): sc-93175, GDE1 siRNA (m): sc-145373, GDE1 shRNA Plasmid (h): sc-93175-SH, GDE1 shRNA Plasmid (m): sc-145373-SH, GDE1 shRNA (h) Lentiviral Particles: sc-93175-V and GDE1 shRNA (m) Lentiviral Particles: sc-145373-V.

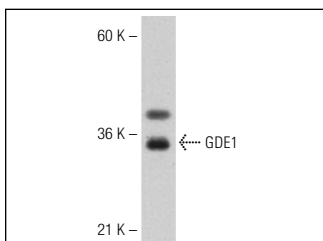
Molecular Weight of GDE1: 37 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

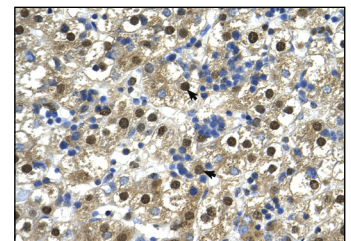
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



GDE1 (L-25): sc-133615. Western blot analysis of GDE1 expression in Jurkat whole cell lysate.



GDE1 (L-25): sc-133615. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human liver tissue showing nuclear and cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Varga, A., Jenes, A., Marczylo, T.H., Sousa-Valente, J., Chen, J., Austin, J., Selvarajah, S., Piscitelli, F., Andreou, A.P., Taylor, A.H., Kyle, F., et al. 2014. Anandamide produced by Ca<sup>2+</sup>-insensitive enzymes induces excitation in primary sensory neurons. *Pflugers Arch.* 466: 1421-1435.

## STORAGE

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