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GDE3 Rabbit pAb

Catalog # AP97796

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q9HCC8
Other Accession	Q9HCC8
Predicted	Rat, Pig, Human, Mouse, Rabbit, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	61729
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GDPD2/GDE3
Epitope Specificity	201-300/539
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the glycerophosphoryl diester phosphodiesterase family. Contains 1 GDPD domain.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	GDE3, also known as glycerophosphodiester phosphodiesterase 3, glycerophosphodiester phosphodiesterase domain containing 2 (GDPD2) or osteoblast differentiation promoting factor (OBDPF), is a 539 amino acid protein belonging to the glycerophosphoryl diester phosphodiesterase family. Possessing glycerophosphoinositol inositolphosphodiesterase activity, GDE3 hydrolyzes glycerophosphoinositol to form inositol 1-phosphate and glycerol, and is suggested to play a role in Actin cytoskeleton remodeling and osteoblast differentiation and growth. A multi-pass membrane protein, GDE3 localizes to cell membrane and cytoplasm, and colocalizes with actin in the cytoskeleton. GDE3 contains one GDPD domain, binds calcium as a cofactor and is encoded by a gene mapping to human chromosome Xq13.1.

Additional Information

Gene ID	54857
Other Names	GDE3; OBDPF; GDPD2_HUMAN; GDPD2; Glycerophosphodiester phosphodiesterase 3; Glycerophosphodiester phosphodiesterase domain-containing protein 2; Osteoblast differentiation promoting factor; 3.1.4.43; glycerophosphodiester phosphodiesterase domain containing 2
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:50-200,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name	GDPD2 (HGNC:25974)
Function	Calcium-dependent ecto-phospholipase C that cleaves the phosphodiester bond between the glycerol backbone and phosphate group of glycerophospholipids at the cell surface, regulating multiple signaling pathways (PubMed:28849762, PubMed:32629025, PubMed:32917725). Substrates include GPI-anchored proteins, which are released from the membrane upon cleavage of the inositol-phosphate linkage. For example, cleavage and release of UPAR/PLAUR regulates cell-matrix adhesion and extracellular matrix remodeling (PubMed:28849762). Also cleaves the glycosylphosphatidylinositol (GPI) anchor of metalloproteases TRABD2A and TRABD2B, releasing them from the plasma membrane. This release modulates their regulation of Wnt signaling (PubMed:35182431). Also hydrolyzes lysophosphatidylinositol (LPI) to monoacylglycerol and inositol-1-phosphate. Converts 2-arachidonoyl-LPI, the endogenous GPR55 agonist, into 2-arachidonoylglycerol (2-AG), an endocannabinoid that activates CNR1/CNR2. Thereby, acts as a switch redirecting signaling from GPR55 to CNR1/CNR2 within the endocannabinoid system that could alternatively regulate osteoblast proliferation and differentiation (PubMed:32629025, PubMed:32917725). Can also cleave glycerophosphoinositol to glycerol and inositol-1-phosphate in vitro (By similarity). May also play a role in remodeling of the actin cytoskeleton (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein. Note=Colocalizes with the actin cytoskeleton. {ECO:0000250|UniProtKB:Q9ESM6}

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.