

# GDPD5 Antibody

Catalog # ASC11781

## Product Information

---

|                       |                                                                                                                                                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Application           | WB, IF, E, IHC-P                                                                                                                                                                                          |
| Primary Accession     | <a href="#">Q8WTR4</a>                                                                                                                                                                                    |
| Other Accession       | <a href="#">NP_110419</a> , <a href="#">189571657</a>                                                                                                                                                     |
| Reactivity            | Human, Mouse, Rat                                                                                                                                                                                         |
| Host                  | Rabbit                                                                                                                                                                                                    |
| Clonality             | Polyclonal                                                                                                                                                                                                |
| Isotype               | IgG                                                                                                                                                                                                       |
| Calculated MW         | 68586                                                                                                                                                                                                     |
| Concentration (mg/ml) | 1 mg/mL                                                                                                                                                                                                   |
| Conjugate             | Unconjugated                                                                                                                                                                                              |
| Application Notes     | GDPD5 antibody can be used for detection of GDPD5 by Western blot at 1 - 2 $\mu$ g/ml. Antibody can also be used for Immunohistochemistry at 5 $\mu$ g/mL. For Immunofluorescence start at 20 $\mu$ g/mL. |

## Additional Information

---

|                          |                                                                                                                                     |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Gene ID                  | 81544                                                                                                                               |
| Other Names              | Glycerophosphodiester phosphodiesterase domain-containing protein 5, 3.1.-., Glycerophosphodiester phosphodiesterase 2, GDPD5, GDE2 |
| Target/Specificity       | GDPD5; GDPD5 antibody is human, mouse and rat reactive. At least three isoforms of GDPD5 are known to exist.                        |
| Reconstitution & Storage | GDPD5 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.                                          |
| Precautions              | GDPD5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.                                    |

## Protein Information

---

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name     | GDPD5 ( <a href="#">HGNC:28804</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Function | Ecto-phospholipase that cleaves the phosphodiester bond in the glycosylphosphatidylinositol (GPI) anchor of various proteins, releasing them from the plasma membrane into the extracellular space (PubMed: <a href="#">27693046</a> , PubMed: <a href="#">31932507</a> , PubMed: <a href="#">33731436</a> ). Cleaves the GPI- anchor of glypican-6/GPC6, thereby positively regulating neuron differentiation in a cell-autonomous manner (PubMed: <a href="#">27693046</a> , PubMed: <a href="#">31932507</a> ). May also hydrolyze the GPI-anchor of glypican-3/GPC3 (PubMed: <a href="#">27693046</a> ). Cleaves the GPI-anchor of the serine protease inhibitor RECK, leading to its inactivation (PubMed: <a href="#">33731436</a> ). RECK inactivation inhibits NOTCH signaling in neighboring cells and induces differentiation of spinal motor neurons (By |

similarity). RECK inactivation can also regulate amyloid-beta precursor protein (APP) processing by ADAM10 (PubMed:[33731436](#)). May additionally catalyze the hydrolysis of the phosphodiester bond in sn-glycerol 3-phosphocholine, potentially contributing to osmotic regulation of cellular glycerophosphocholine levels (By similarity).

#### Cellular Location

Cell membrane; Multi-pass membrane protein. Membrane raft; Multi-pass membrane protein. Cell projection, growth cone {ECO:0000250|UniProtKB:Q640M6}. Note=Colocalizes with recycling endosome as it undergoes constitutive clathrin- and dynamin-mediated internalization and recycling.

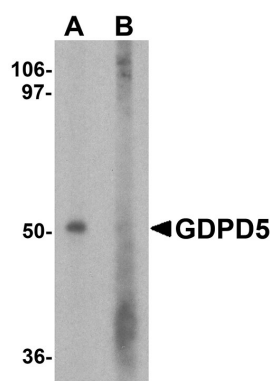
## Background

The glycerophosphodiester phosphodiesterase domain containing 5 (GDPD5) protein, also known as GDE2, is a seven transmembrane, widely expressed protein (1) that is necessary for spinal motor neuron differentiation and retinoid-induced neuronal outgrowth (2,3). Altered choline phospholipid metabolism is a hallmark of cancer, and the elevated expression of GDPD5 correlates with malignant choline phospholipid metabolite profiles in human breast cancer (4).

## References

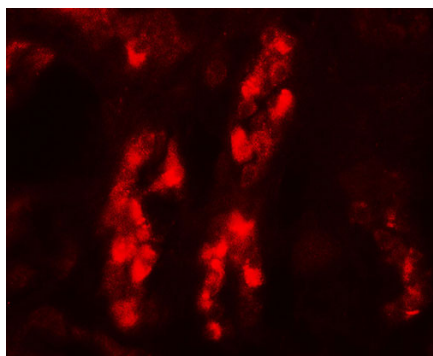
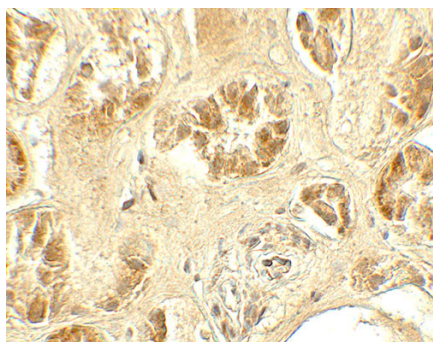
Nogusa Y, Fujioka Y, Komatsu R, et al. Isolation and characterization of two serpentine membrane proteins containing glycerophosphodiester phosphodiesterase, GDE2 and GDE6. *Gene* 2004; 337:173-9.  
Rao M and Sockanathan S. Transmembrane protein GDE2 induces motor neuron differentiation in vivo. *Science* 2005; 309:2212-5.  
Yanaka N, Nogusa Y, Fujioka Y, et al. Involvement of membrane protein GDE2 in retinoic acid-induced neurite formation in Neuro2A cells. *FEBS Lett.* 2007; 581:712-8.  
Cao MD, Dopkens M, Krishnamachary B, et al. Glycerophosphodiester phosphodiesterase domain containing 5 (GDPD5) expression correlates with malignant choline phospholipid metabolite profiles in human breast cancer. *NMR Biomed.* 2012; 25:1033-42.

## Images



Western blot analysis of GDPD5 in mouse kidney tissue lysate with GDPD5 antibody at 1 µg/ml in (A) the absence and (B) the presence of blocking peptide.

Immunohistochemistry of GDPD5 in human kidney tissue with GDPD5 antibody at 5 µg/mL.



Immunofluorescence of GDPD5 in human kidney tissue with GDPD5 antibody at 20  $\mu\text{g/mL}$ .

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