Human GPR56
Alexa Fluor® 405-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 776123

Catalog Number: FAB4636V

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human GPR56 in direct ELISA.
Source	Monoclonal Mouse IgG_{2B} Clone # 776123
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human GPR56 Met1-Val342 Accession # Q9Y653
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10^6 cells	Human peripheral blood cells

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

GPR56 is a member of the LN-TM7 family of adhesion-type 7-transmembrane (TM) G-protein coupled receptors (GPCR) with long extracellular N-termini (1-3). The 693 amino acid (aa) human GPR56 contains a 25 aa signal sequence, a 377 aa N-terminal extracellular domain (ECD) and seven TM regions separated by short intracellular and extracellular regions. Like other LN-TM7 members, the ECD contains a highly glycosylated mucin-like stalk followed by a GPCR proteolytic cleavage site (GPS) (1, 4). Cleavage of the 60 kDa N-terminus from the 80 kDa full length form is needed for efficient cell surface expression (5, 6). While the cleaved portion may remain non-covalently associated, it has also been found in conditioned medium of cultured cells (5). Human GPR56 shares 71%, 72%, 80%, 80% and 79% aa identity with mouse, rat, canine, equine, and bovine GPR56 within the cleaved ECD. A functional splice variant lacking the GPS site and a non-functional splice variant lacking portions of the TM domains have also been described (4). A human brain developmental disorder, bilateral frontoparietal polymicrogyria, is associated with GPR56 mutations that also show impaired GPS cleavage, intracellular trafficking, and expression at the cell surface (5). GPR56 is widely distributed, with highest mRNA or expressed sequence tag expression in brain, thyroid, skin and female reproductive system (3, 4). GPR56 expression is upregulated during cell transformation and is high in melanomas, glioblastomas and astrocytomas, but downregulated in melanomas with high metastatic potential (2, 6-8). Although the function of GPR56 is not completely known, it is clearly an adhesion protein (6-8). Tissue transglutaminase (TG2) is one reported ligand, binding of which inhibits melanoma growth and metastasis (6). Association of GPR56 with the tetraspanin CD81 stabilizes its complex with Gaq/11 for cell signaling (9).

References:

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