

DESCRIPTION

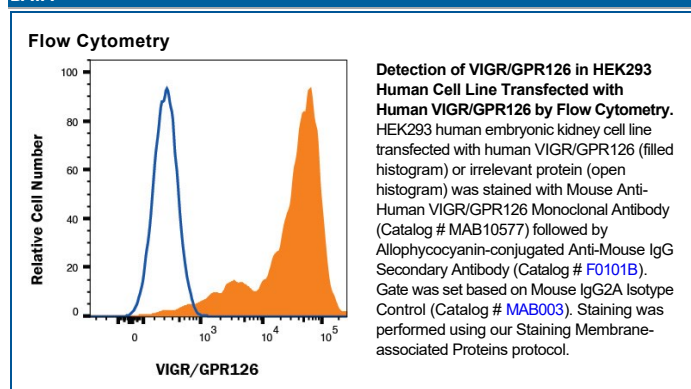
Species Reactivity	Human
Specificity	Detects human VIGR/GPR126 protein in direct ELISAs.
Source	Monoclonal Mouse IgG _{2A} Clone # 1044430
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell HEK293-derived human VIGR/GPR126 protein Cys38-Lys437 Accession # AAH75798.1
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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 µg/10 ⁶ cells	HEK293 Human Cell Line Transfected with Human VIGR/GPR126

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

VIGR (Vascular Inducible G Protein-coupled Receptor), also known as ADGRG6, DREG, and GPR126, is a neuronal 7 TM pass (G protein)-coupled receptor (GPCR) involved in myelination and glial and Schwann cell development (1, 2). Human VIGR cDNA encodes a 1221 amino acid (aa) residue membrane protein with a 37 aa signal peptide, a 825 aa extracellular domain (ECD) with 27 potential N-linked glycosylation sites, seven transmembrane segments that span between aa 863 and aa 1113, and a 108 aa residue cytoplasmic domain. Within ECD human VIGR shares 83% aa sequence identity with mouse and rat VIGR. VIGR is essential for the development of diverse organs (1, 2). Type IV collagen, a major constituent of the basement membrane, binds to VIGR and activates its signaling function (3). This interaction stimulated the production of cAMP in rodent Schwann cells, which require VIGR activity to differentiate, and in human embryonic kidney (HEK293) cells expressing exogenous VIGR. Laminin-211 binds a novel laminin-binding domain in VIGR N-terminal fragment between aa 446 and 807 (4). VIGR-Laminin-211 interactions regulate terminal differentiation and myelination by ensuring appropriate levels of cAMP for a given stage of Schwann cell development (4).

References:

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2. Engelstaedter, V. *et al.* (2012) BMC Cancer **12**:600.
3. Taylor-Papadimitriou, J. *et al.* (1999) Biochim. Biophys. Acta **1455**:301.
4. Geng, Y. *et al.* (2012) Front Oncol. **2**:76.
5. Tanida, S. *et al.* (2013) J Biol Chem. **288**:31842.
6. Beatson, R. *et al.* (2016) Nat Immunol. **17**:1273.
7. Piyush, T. *et al.* (2017) Cell Death Differ. **24**:1937.