Human ELFN1 Antibody

Monoclonal Mouse IgG_1 Clone # 965705

Catalog Number: MAB10644

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ELFN1 in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 965705
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived human ELFN1 protein Asp28-Tyr418 Accession # P0C7U0
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.

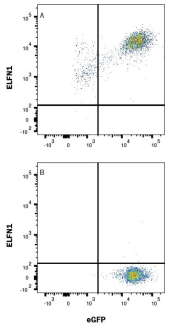
APPLICATIONS

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/mL	HEK293 Human Cell Line Transfected with Human ELFN1 and eGFP

DATA

Flow Cytometry



Detection of ELFN1 in HEK293 Human Cell Line Transfected with Human ELFN1 and eGFP by Flow Cytometry HEK293 human embryonic kidney cell line transfected with (A) human ELFN1 or (B) irrelevant protein, and eGFP was stained with Mouse Anti-Human ELFN1 Monoclonal Antibody (Catalog # MAB10644) followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). Quadrant markers were set based on control antibody staining (Catalog # MAB002). Staining was performed using our Staining Membrane-associated Proteins protocol.

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.** • 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.

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BACKGROUND

ELFN1 (Extracellular leucine-rich repeat and fibronectin type-III domain-containing protein 1), also known as Protein phosphatase 1 regulatory subunit 28, is a member of the extracellular Leucine-Rich Repeat superfamily (1). Expressed mainly in the nervous system, ELFN1 is a transmembrane protein that inhibits the activity of protein phosphatase 1 (PP1) complexes (2). Mature human ELFN1 consists of a 391 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment and a 389 aa cytoplasmic tail. The ECD includes one fibronectin type-III domain, six leucine-rich repeats (LRR) and one LRR C-terminal (LRRCT) domain. Human ELFN1 shares 90% aa sequence identity with mouse and rat ELFN1. The cytoplasmic tail contains many tyrosine but no other detectable motifs. ELFN1 is strongly expressed in globus pallidus and interneurons in cortex and hippocampus in both developing and adult brains (1). It is also expressed in endocrine and reproductive tissues (1). Given the functions and discrete patterns of many known LRR family proteins, it has been proposed that ELFN1 could serve as a neuronal adhesion molecule and play an integral role in synapse formation and differentiation via the coordination of both pre- and postsynaptic machineries, thereby involved in neurite outgrowth, axon guidance, fasciculation, and synapse formation (3). Recent studies showed that ELFN1 physically anchor metabotropic glutamate receptor 6 (mGluR6) and mGluR7 across retinal and hippocampal synapses (3-4), and can be recruited selectively to all group III mGluRs (mGluR4, mGluR6, mGluR7, and mGluR8) to allosterically modulate these receptors (5).

References:

1. Dolan J. *et al.* (2007) BMC Genomics **8**:320.
2. Hendrickx, A. *et al.* (2009) Chem. Biol. **16**:365.
3. Williams, M.E. *et al.* (2010) Neuron **68**:9.
4. De Wit, J. and Ghosh A. (2016) Nat Rev Neurosci **17**:22.
5. Dunn H. A. *et al.* (2018) PNAS **115**:5022.

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