

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human LYPD6 protein		
	Human LYPD6 (Ala23-His152) Accession # Q86Y78-1	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Ala23		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	41 kDa		

SPECIFICATIONS

SDS-PAGE	58-66 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human LYPD6 Fc Chimera is immobilized at 2 µg/mL (100 µL/well), Biotinylated Recombinant Human Frizzled-8 Fc Chimera binds with an ED ₅₀ of 2-12 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

DATA

Binding Activity

When Recombinant Human LYPD6 Fc Chimera (Catalog # 10073-LY) is coated at 2 µg/mL, 100 µL/well, Biotinylated Recombinant Human Frizzled-8 Fc Chimera binds with an ED₅₀ of 2-12 µg/mL.

SDS-PAGE

2 µg/lane of Recombinant Human LYPD6 Fc Chimera was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 58-66 kDa and 120 -130 kDa, respectively.

BACKGROUND

LYPD6 (Ly6/PLAUR domain-containing protein 6) is a member of the Ly6/uPar family of proteins that are either secreted or GPI-anchored to the cell surface. Members of this protein family include immune regulatory molecules like CD59, the urokinase plasminogen activator receptor (uPar) and molecules that regulate cell proliferation, migration and adhesion (1-3). Ly6/uPar proteins are characterized by the presence of variable loop regions which confer the functional diversity of this protein family (4). Human LYPD6 is synthesized as a 171 aa protein that includes a 22 aa signal peptide and a 149 aa LYPD6 chain. Within the main chain region, human LYPD6 shares 95% sequence identity with mouse LYPD6. LYPD6 is an important regulator of embryogenesis in zebrafish through its enhancement of Wnt/ β -catenin signaling (5). It is widely expressed in human tissues with higher expression level in the brain and the heart (5-7). Studies have shown LYPD6 can interact with Frizzled-8 and LRP6, and it is required for Wnt-8-mediated mesoderm and neuroectoderm patterning (5). Also, it has been shown LYPD6 can interact with several nicotinic acetylcholine receptors (nAChRs) in the human brain (7). Soluble recombinant LYPD-6 can inhibit nicotine-induced phosphorylation of ERK in PC12 cells and attenuate nicotine-induced hippocampal inward currents in rat brain slices (7).

References:

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4. Vasilyeva, N.A. *et al.* (2017) *Biochemistry (Mosc.)* **82**:1702.
5. Özhan, G. *et al.* (2013) *Dev Cell.* **26**(4):331.
6. Zhang, Y. *et al.* (2010) *Mol Biol Rep* **37**:2055.
7. Arvaniti, M. *et al.* (2016) *J. Neurochem.* **138**:806.