Recombinant Human AMIGO3 Fc Chimera

Catalog Number: 9508-AM

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived

Human AMIGO3 (Thr20-Pro378) Accession # Q86WK7	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Thr20
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	66 kDa

SPECIFICATIONS

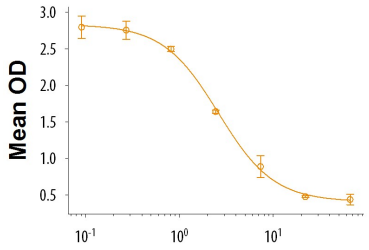
SDS-PAGE	83-103 kDa, reducing conditions
Activity	Measured by its ability to inhibit IL-2 secretion by mouse T cells in the presence of anti-CD3. The ED_{50} for this effect is 1-5 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver 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 200 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity



Recombinant Human AMIGO3 Fc Chimera (Catalog # 9508-AM) inhibits IL-2 secretion by mouse T cells in the presence of anti-CD3 antibody. The ED_{50} for this effect is 1-5 µg/mL.

BACKGROUND

AMIGO3 (Amphoterin-induced protein 3), also called Alivin-3, is a 68 kDa single-pass type I membrane cell adhesion protein. AMIGO3 belongs to a family of leucine-rich repeat (LRR) containing proteins that play various roles in nervous system development and function (1, 2). Human AMIGO3 cDNA encodes 504 amino acids (aa) including a 19 aa signal sequence, 264 aa extracelluar domain, 21 aa transmembrane domain and 100 aa cytoplasmic domain. Human AMIGO3 shares 77.2% and 79.1% aa sequence identity with mouse and rat AMIGO3, respectively. AMIGO family proteins are cell adhesion molecules that exhibit homophilic and heterophilic binding properties and are thought to play roles in neuronal axon tract development and cell adhesion. AMIGO3 is expressed in brain tissues, also found in liver, kidney and spleen (3). AMIGO3 mRNA and protein levels are preferentially and significantly raised in DRGN and RGC immediately after central axotomy. Depression of AMIGO3 expression correlates with dorsal column (DC) and optic nerve regeneration. AMIGO3 interacts with NgR1 and p75/TROY forming a functional receptor complex that activates RhoGTP in cells exposed to CNS myelin extracts (CME). AMIGO3 substitutes for LINGO-1 in centrally axotomized DRGN and RGC in the acute phase of injury. AMIGO3-NgR1-p75/TROY receptor complex mediates immediate axon growth inhibitory responses to CNS myelin (4). Our in-house data showed that AMIGO3 inhibited anti-CD3 induced IL-2 secretion on $CD3^+$ cells, suggesting that AMIGO3 may be involved in T cell activation.

References:

1. Chen, Y. *et al.* (2006) Brain Res. Rev. **51**:265.
2. SwissProt Accession # Q86WK7.
3. Kuja-Panula J, *et al.* (2003) J Cell Biol **160**:963.
4. Ahmed Z, *et al.* (2013) PLoS One. **8**:e61878.

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