

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived mouse AMIGO protein
Gly28-Thr371, with a C-terminal 6-His tag
Accession # Q80ZD8

N-terminal Sequence Analysis Gly28

Predicted Molecular Mass 40 kDa

SPECIFICATIONS

SDS-PAGE 49-62 kDa, reducing conditions

Activity Measured by its ability to inhibit IL-2 secretion by mouse T cells in the presence of anti-CD3.
The ED₅₀ for this effect is 0.1-1 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 100 µg/mL in PBS.

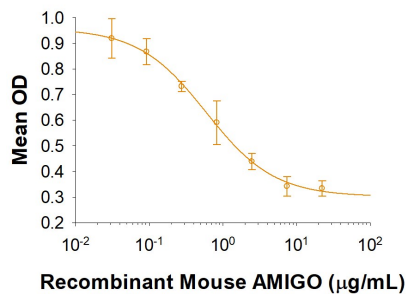
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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 °C under sterile conditions after reconstitution.

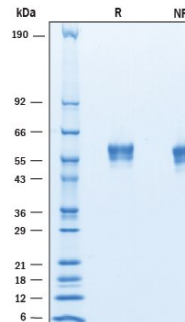
DATA

Bioactivity



Recombinant Mouse Amigo (Catalog # 10084-AM) inhibits IL-2 secretion by mouse T cells in the presence of anti-CD3. The ED₅₀ for this effect is 0.1-1 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse AMIGO was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 49-62 kDa.

BACKGROUND

AMIGO (Amphoterin-induced gene and ORF) is an approximately 55 kDa transmembrane cell adhesion protein. It belongs to a family of leucine-rich repeat (LRR) containing proteins that play various roles in nervous system development and function (1). Mature mouse AMIGO consists of a 344 amino acid (aa) extracellular domain (ECD) with six tandem LRRs flanked by LRR N- and C-terminal domains, one immunoglobulin-like domain, a 21 aa transmembrane segment, and a 100 aa cytoplasmic domain (2). Within the ECD, mouse AMIGO shares 86% aa sequence identity with human AMIGO and 93% with rat AMIGO. AMIGO is an N-glycosylated protein that forms homodimers by association between LRR regions (3, 4). It has homophilic and heterophilic interactions with the related AMIGO2 and AMIGO3 proteins (2). AMIGO is expressed along developing and mature neuronal fiber tracts on neurons, astrocytes, and oligodendrocytes (2, 4). It promotes the extension and branching of hippocampal and cortical neurons (2, 4). It also supports neuronal survival following apoptotic stimulation (4). AMIGO directly associates with the potassium channel Kv2.1 and enhances ion conductance through the channel (5). Kv2.1 localization and activation is regulated by phosphorylation, but phosphorylation status does not alter its interaction with AMIGO (5, 6). Our data show that AMIGO act as ligand that inhibit anti-CD3 induced IL-2 secretion on CD3⁺ T cells, suggesting that it may be involved in T cell suppression.

References:

1. de Wit, J. *et al.* (2011) *Annu. Rev. Cell Dev. Biol.* **27**:697.
2. Kuja-Panula, J. *et al.* (2003) *J. Cell Biol.* **160**:963.
3. Kajander, T. *et al.* (2011) *J. Mol. Biol.* **413**:1001.
4. Chen, Y. *et al.* (2012) *J. Cell. Physiol.* **227**:2217.
5. Peltola, M.A. *et al.* (2011) *EMBO Rep.* **12**:1293.
6. Park, K.-S. *et al.* (2006) *Science* **313**:976.