

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Gln21-Asp931, with a C-terminal 6-His tag
Accession # Q7Z553

N-terminal Sequence Analysis No results obtained: Gln21 predicted

Predicted Molecular Mass 103.2 kDa

SPECIFICATIONS

SDS-PAGE 105-125 kDa, under reducing conditions

Activity Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons.
Able to significantly enhance neurite outgrowth when immobilized at 7.5-30 µg on a nitrocellulose-coated microplate.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >90%, by SDS-PAGE under reducing conditions and visualized by silver stain.

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 sterile 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.

BACKGROUND

MDGA2 (MAM domain-containing glycosylphosphatidylinositol anchor protein 2; also named MAMDC1) is a 130 kDa member of the Ig superfamily of proteins (1). Human MDGA2 is synthesized as a 956 amino acid (aa) precursor that contains a 25 aa signal sequence, a 906 aa mature chain, and a 25 aa propeptide. The mature chain consists of six Ig-like domains, followed by a MAM domain (aa 746 - 921) and a GPI anchor. In addition, there are eight potential sites for N-linked glycosylation. Mature human MDGA2 shares 98% aa sequence identity with mature mouse and rat MDGA2. MDGA2 is structurally similar to other IgCAMS, such as the L1 family and axonin 1, which have roles in cell adhesion, migration, and process outgrowth (2). Northern blot analysis shows MDGA2 expression is limited to the central and peripheral nervous system (1). Within the brain, moderate expression is observed in the cerebral cortex, the hindbrain, the basilar pons, the neocortex, the hippocampus, the amygdala, olfactory bulb, and selected nuclei of the thalamus (1). The similarity of MDGA2 to other Ig-containing molecules, and its temporal-spatial patterns of expression within restricted neuronal populations, suggest a role for MDGA2 in regulating neuronal migration, as well as other aspects of neural development, including axon guidance (1). One study shows that MDGA2 gene is implicated in neuroticism (3).

References:

1. Litwack, E.D. *et al.* (2004) Mol. Cell. Neurosci. **25**:263.
2. Takeuchi, A. and D.D.M. O'Leary (2006) J. Neurosci. **26**:4460.
3. van den Oord, E.J. *et al.* (2008) Arch Gen Psychiatry **65**:1062.