Human MDGA1 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF5055

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human MDGA1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 10% cross-reactivity with recombinant human MDGA2 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human MDGA1 Gln19-Gly931 Accession # Q8NFP4
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
Western Blot	0.1 µg/mL	Recombinant Human MDGA1 (Catalog # 5055-MD)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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.

BACKGROUND

MDGA1 (MAM domain containing glycosylphosphatidylinositol anchor 1; also named GPIM) is a 140 kDa member of the Ig superfamily of proteins (1). Human MDGA1 is synthesized as a 955 amino acid (aa) precursor that contains an 18 aa signal sequence, a 914 aa mature chain, and a 23 aa propeptide. The mature chain consists of six Ig-like domains, a fibronectin type III domain (aa 640-739), a MAM domain (aa 751-918), 11 potential sites for N-linked glycosylation, and a GPI anchor (aa 932) (1-3). Alternative splicing in human MDGA1 produces an isoform variant that shows a 48 aa substitution for aa corresponding to positions 926-955. Mature human MDGA1 shares 96%, 94%, and 80% aa sequence identity with mature rat, mouse, and chick MDGA1, respectively. MDGA1 is structurally similar to other IgCAMS, such as the L1 family and axonin 1, which have roles in cell adhesion, migration, and process outgrowth (4). Expression analysis in normal human tissues reveals that MDGA1 is expressed as a 5 kb and 9.5 kb mRNA (2). The smaller transcript is highly expressed in some human cancer cell lines, as well as in different primary tumors (lung, colon, uterus, stomach, and breast) (2). Gene expression is higher in several tumor tissues as compared with corresponding normal tissues, and may be involved in tumor progression (2). The 9.5 kb transcript is found exclusively in the central and peripheral nervous system (1-2, 4). One study shows that MGDA1 is expressed in mice neocortex by layer 2/3 neurons throughout their development (4), and it is involved in controlling the migration and lamination of layer 2/3 neurons (5).

References:

1. Litwack, E.D. *et al.* (2004) Mol. Cell. Neurosci. **25**:263.
2. De Juan, C. *et al.* (2002) Oncogene **21**:3089.
3. Diaz-Lopez, A. *et al.* (2005) Exp. Cell Res. **307**:91.
4. Takeuchi, A. and D.D.M. O'Leary (2006) J. Neurosci. **26**:4460.
5. Takeuchi, A. *et al.* (2007) Cereb Cortex. **17**:1531.

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