Human Gremlin Antibody

Monoclonal Mouse IgG_1 Clone # 955323

Catalog Number: MAB51901

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Gremlin in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 955323
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Gremlin Met1-Asp184 Accession # O60565
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.

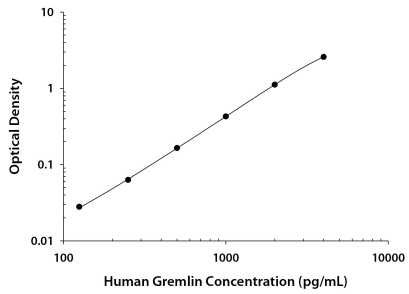
APPLICATIONS

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.*

ELISA	This antibody functions as an ELISA capture antibody when paired with Mouse Anti-Human Gremlin Monoclonal Antibody (Catalog # MAB5190). *This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Human Gremlin DuoSet ELISA Kit (Catalog # DY5190-05) for convenient development of a sandwich ELISA.*

DATA

ELISA



Human Gremlin ELISA Standard Curve. Recombinant Human Gremlin protein was serially diluted 2-fold and captured by Mouse Anti-Human Gremlin Monoclonal Antibody (Catalog # MAB51901) coated on a Clear Polystyrene Microplate (Catalog # DY990). Mouse Anti-Human Gremlin Monoclonal Antibody (Catalog # MAB5190) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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.

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BACKGROUND

Gremlin was identified in a *Xenopus* expression-cloning screen as a dorsalizing factor that can induce a secondary axis. A rat homolog, called Drm, was identified as a cDNA that was downregulated in v-mos transfected cells. Gremlin/Drm belongs to the DAN family of secreted glycoproteins that are BMP antagonists. Other members of the family include: Cerberus, Dante, PRDC, Caronte, and DAN. DAN family members share a cysteine-rich domain that is structurally related to the cysteine-knot motif found in TGF-β superfamily ligands. In vitro, Gremlin/Drm binds BMP-4 and BMP-2 indicating that it might interfere with BMP signaling. Gremlin/Drm acts as a BMP-2/4 antagonist in a variety of tissues and developmental processes including: Xenopus animal cap explants, chick limb bud outgrowth and chondrogenesis, murine lung branching morphogenesis, and osteogenic differentiation of mouse myoblasts and bone marrow stromal cells. In addition, expression of Gremlin/Drm has been shown to be downregulated in a wide range of human cancer cell lines. Mouse, human, chick and *Xenopus* homologs of Gremlin share over 80% amino acid identity. It is likely that various DAN family members and other BMP antagonists including Noggin, Chordin, Follistatin and TSG can selectively antagonize the activities of different subsets of TGF-β superfamily ligands.

References:

1. Hsu, D.R. *et al.* (1998) Mol. Cell **1**:673.
2. Merino, R. *et al.* (1999) Development **126**:5515.
3. Shi, W. *et al.* (2001) Am. J. Physiol. Lung Cell Mol. Physiol. **280**:L1030.
4. Topol, L.Z. *et al.* (2000) J. Biol. Chem. **275**:8785.

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