

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Gremlin in direct ELISAs.                                                                                                                                                                                                                                     |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 955323                                                                                                                                                                                                                            |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Gremlin<br>Met1-Asp184<br>Accession # O60565                                                                                                                                                                          |
| <b>Conjugate</b>          | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

#### 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** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### 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.

#### PRODUCT SPECIFIC NOTICES

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