

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse DAN in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) DAN, recombinant chicken Caronte, rhCerberus, or recombinant mouse Gremlin is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 123202
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse DAN Ala17-Asp178 Accession # Q61477.2
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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	1 µg/mL	Recombinant Mouse DAN (Catalog # 755-DA)
Blockade of Receptor-ligand Interaction	In a functional ELISA, 5-20 µg/mL of this antibody will block 50% of the binding of 100 ng/mL of Recombinant Human BMP-4 (Catalog # 314-BP) to immobilized Recombinant Mouse DAN (Catalog # 755-DA) coated at 2 µg/mL (100 µL/well). At 200 µg/mL, this antibody will block >90% of the binding.	

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. <ul style="list-style-type: none"> ● 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

DAN (differential screening-selected gene aberrative in neuroblastoma) was initially identified as a gene whose expression is downregulated in *src*-transformed rat fibroblasts. DAN has now been shown to be a prototypical member of the DAN family of secreted glycoproteins that are putative BMP antagonists. DAN family members share a cysteine-rich domain that is structurally related to the cysteine-knot motif found in TGF-β superfamily ligands. There are at least five mouse DAN family members, including DAN, Gremlin/DRM, Cer1 (Cerberus-related), Dante and PRDC (protein related to DAN and cerberus). Additional DAN family members include *Xenopus* Cerberus, chick Caronte, and *C. elegans* CeCan 1. Murine DAN binds BMP-2 in immunoprecipitation experiments and acts as a BMP antagonist in *Xenopus* animal cap explants. The DAN family of proteins are thought to act as antagonists by binding BMP ligands and preventing their interactions with signaling receptor complexes. Recombinant mouse DAN preparations from R&D Systems have been shown to bind BMP-4 in a functional ELISA. It is likely the various DAN family members and other TGF-β BMP antagonists including Noggin, Chordin, Follistatin, and TSG can selectively antagonize the activities of different subsets of TGF-β superfamily ligands. These antagonists represent one of the many elaborate regulatory mechanisms that have evolved to control the bioactivities of the TGF-β superfamily ligands.

References:

1. Massage, J. and Y-G. Chen (2000) *Genes & Development* **14**:627.
2. Perch, J.J.H. *et al.* (1999) *Develop. Biol.* **209**:98.
3. Hsu, D.R. *et al.* (1998) *Mol. Cell.* **1**:673.