

## DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse DAN in ELISAs and Western blots. In sandwich immunoassays, no cross-reactivity with recombinant human (rh) DAN, rhCOCO, recombinant mouse (rm) BMP-4, rmGremlin, or recombinant chicken (rch) Caronte is observed. In Western blots, approximately 10% cross-reactivity with rhDAN, rhCOCO, and rchCaronte is observed and no cross reactivity with rmGremlin is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 123224
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse DAN Ala17-Asp178 Accession # Q61477
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

## 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	Recombinant Mouse DAN (Catalog # <a href="#">755-DA</a> ) under non-reducing conditions only
<b>Mouse DAN Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 µg/mL	Mouse DAN Antibody (Catalog # <a href="#">MAB7552</a> )
<b>ELISA Detection</b>	0.1-0.4 Not Assigned	Mouse DAN Biotinylated Antibody (Catalog # <a href="#">BAF755</a> )
<b>Standard</b>		Recombinant Mouse DAN (Catalog # <a href="#">755-DA</a> )

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

DAN (differential screening-selected gene aberrative in neuroblastoma) was initially identified as a gene whose expression is down-regulated 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.