

**DESCRIPTION**

**Source** Mouse myeloma cell line, NS0-derived  
Ala17-Asp178, with a C-terminal Ile and 10-His tag  
Accession # Q499K5

**N-terminal Sequence Analysis** Ala17

**Predicted Molecular Mass** 18.9 kDa

**SPECIFICATIONS**

**SDS-PAGE** 27-30 kDa, reducing conditions

**Activity** Measured by its binding ability in a functional ELISA.  
Immobilized rmDAN at 2 µg/mL (100 µL/well) can bind rhBMP-4 with a linear range of 0.1-10 ng/mL.

**Endotoxin Level** <1.0 EU per 1 µg of the protein by the LAL method.

**Purity** >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 100 µg/mL in sterile PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**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.
- 3 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.