

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human DAN in direct ELISAs and Western blots. In direct ELISAs, approximately 25% cross-reactivity with recombinant mouse (rm) DAN is observed and less than 1% cross-reactivity with recombinant chicken Caronte, rmGremlin, and recombinant                       |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human DAN<br>Ala17-Asp180 (Ala36Arg)<br>Accession # Q5U0N4                                                                                                                                                                  |
| <b>Conjugate</b>          | Alexa Fluor 750<br>Excitation Wavelength: 749 nm<br>Emission Wavelength: 775 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.

|                                                |                                                                        |
|------------------------------------------------|------------------------------------------------------------------------|
| <b>Western Blot</b>                            | Optimal dilution of this antibody should be experimentally determined. |
| <b>Blockade of Receptor-ligand Interaction</b> | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b>                    | 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

DAN (differential screening-selected gene aberrative in neuroblastoma) was initially identified as a gene whose expression is downregulated in *src*-transformed rat fibroblasts. Human DAN was isolated from a normal lung cDNA library using mouse DAN as a probe. DAN has now been shown to be a prototypical member of the DAN family of secreted glycoproteins that are putative antagonists for TGF-β superfamily proteins. 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 mammalian DAN family members including DAN, Gremlin/DRM, Cer1 (Cerberus-related), Dante and PRDC (protein related to DAN and cereberus). Additional DAN family members include *Xenopus* Cerberus, chick Caronte and *C. elegans* CeCan 1. The DAN family of proteins are thought to act as antagonists by binding TGF-β family ligands and preventing their interactions with signaling receptor complexes. Recombinant human DAN preparations from R&D Systems have been shown to bind BMP-4 in a functional ELISA and to inhibit BMP-4 mediated bioactivity in ATDC 5 chondrogenic cells. 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.

## PRODUCT SPECIFIC NOTICES

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