

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived		
	Chicken Caronte (Asp16 - Asn272) and (Glu18 - Asn272) Accession # NP_990154	IEGRMD	Human IgG ₁ (Pro100 - Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Asp16 & Glu18		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	56 kDa (monomer)		

SPECIFICATIONS

SDS-PAGE	60-70 kDa, reducing conditions
Activity	Measured by its ability to cause heart reversals when injected into the right lateral plate of a population of <i>Xenopus</i> neurulae embryos. 80 ng per embryo induces 25-50% heart reversals. Measured by its binding ability in a functional ELISA. Immobilized rchCaronte/Fc Chimera at 5 µg/mL (100 µL/well) can bind hBMP-4 with a linear range of 0.8-100 ng/mL.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>90%, 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. <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. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Chicken Caronte, the ortholog of mammalian Cerberus, is a member of the Cerberus/DAN family of secreted glycoproteins. There are at least 5 Dan Domain (DAND) family members including DAN (DAND1), Gremlin/Drm (DAND2), PRDC (Protein Related to Dan and Cerberus; DAND3), Cerberus (DAND4), and Coco (DAND5). Caronte is expressed in the left paraxial mesoderm and is the molecule responsible for transducing left-sided positional information from the node to the periphery of the lateral plate mesoderm (LPM) during chicken embryonic development. Caronte functions as a BMP antagonist, inducing Nodal and downstream genes in the LPM by interfering with the repressive activity of bilaterally-produced BMPs. In addition, antagonism of BMPs by Caronte induces the expression of the Lefty gene in the midline. Caronte binds both BMP-4 and BMP-7 in immunoprecipitation experiments. Recombinant chicken Caronte preparations from R&D Systems have been shown to bind BMP-4 in a functional ELISA and induce heart reversals in *Xenopus* embryos.

References:

1. Pearce, J. *et al.* (1999) *Dev. Biol.* **209**:98.
2. Yokouchi, Y. *et al.* (1999) *Cell.* **98**:573.
3. King, T. and N. Brown (1999) *Nature* **401**:222.
4. Ahu, L. *et al.* (1999) *Curr. Biol.* **9**:931.
5. Rodriguez-Esteban, C. *et al.* (1999) *Nature* **401**:243.