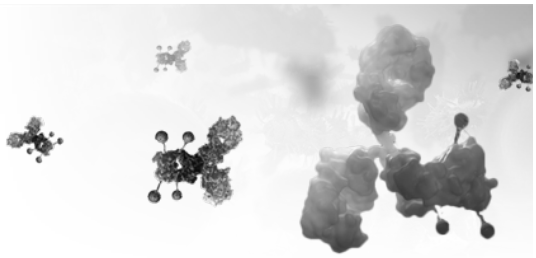

Zebrafish BMP2A (aa 272 - 386) (DAG2585)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Product Overview	Recombinant Zebrafish BMP-2a was expressed in E. coli. Gln272-Arg386, with an N-terminal Met, Disulfide-linked homodimer (Accession # AAI63048.1)
Antigen Description	BMP-2 is one of at least 20 structurally and functionally related BMPs, which are members of the transforming growth factor β (TGF-β) superfamily. BMPs were originally indentified as protein regulators of cartilage and bone formation. However, they are also involved in embryogenesis and morphogenesis of various tissues and organs. BMPs regulate the growth, differentiation, chemotaxis, and apoptosis of various cell types, including mesenchymal cells, epithelial cells, hematopoietic cells, and neuronal cells. Similarly to other TGF-β family proteins, BMPs are highly conserved across animal species. At the amino acid sequence level, mature human, mouse, and rat BMP-2 are 100% identical, while mature human BMP-2 and zebrafish BMP-2a are 85% identical. Zebrafish have another homolog of BMP-2a, BMP-2b, which is 88% identical to BMP-2a in the mature region and corresponds to the swirl mutant. The combined expression pattern of zBMP-2a/2b/4 coincides with areas where BMP-2/4 expression would be found in other vertebrates. Biologically active BMP-2a is a disulfide-linked homodimer of the carboxy-terminal 115 amino acid residues that contains the characteristic seven conserved cysteine residues involved in the formation of the cysteine knot and the single interchain disulfide bond. Cellular responses to BMP-2a have been shown to be mediated by the formation of hetero-ogliomeric complexes of type I and type II serine/threonine kinase receptors. In contrast to the TGF-β type I receptor, which does not bind the ligand in the absence of the TGF-β receptor type II, both BMP receptor type I's can bind BMP-2 with high affinity in the absence of BMP receptor type II.
Species	Zebrafish
Purity	> 97%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Conjugate	Unconjugated
Format	Lyophilized from a 0.2 μm filtered solution in Acetonitrile and TFA with BSA as a carrier protein
Concentration	100 μg/mL

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Buffer	4 mM HCl
Preservative	None
Storage	2-8°C short term, -20°C long term

BACKGROUND

Introduction	Bone morphogenetic protein 2 or BMP-2 belongs to the TGF-β superfamily of proteins. BMP-2 like other bone morphogenetic proteins, plays an important role in the development of bone and cartilage. It is involved in the hedgehog pathway, TGF beta signaling pathway, and in cytokine-cytokine receptor interaction. It is involved also in cardiac cell differentiation and epithelial to mesenchymal transition.
Keywords	BDA2; BMP 2; BMP 2A; BMP-2; BMP-2A; Bmp2; NBMP2A; Bone morphogenetic protein 2; Bone morphogenetic protein 2A; Zebrafish BMP-2 protein

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