

## DESCRIPTION

<b>Species Reactivity</b>	<i>Drosophila</i>
<b>Specificity</b>	Detects <i>Drosophila</i> Decapentaplegic/DPP in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 1% cross-reactivity with recombinant human (rh) TGF-β1, rhTGF-β2, rhTGF-β3, and recombinant amphibian TGF-β5 is observed.
<b>Source</b>	Polyclonal Chicken IgY
<b>Purification</b>	Antigen Affinity-purified from egg yolks
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant <i>Drosophila</i> Decapentaplegic/DPP Asp457-Arg588 (Gln473His, Pro474Ala) Accession # P07713
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

## 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>	0.1 µg/mL	Recombinant <i>Drosophila</i> Decapentaplegic/DPP (Catalog # 159-DP)

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 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>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <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

Decapentaplegic (Dpp) is one of at least five TGF-β superfamily ligands identified in the *Drosophila* genome. Dpp, a functional orthologue of mammalian BMP-2 and BMP-4, is a morphogen and plays an essential role in *Drosophila* development. Dpp regulates embryonic dorsal-ventral polarity and is required for gut morphogenesis and outgrowth and patterning of imaginal disks. Similar to other TGF-β family ligands, Dpp is synthesized as a large proprotein which is proteolytically processed at the dibasic cleavage site to release the carboxy-terminal domain. Biologically active Dpp is a disulfide-linked homodimer of the carboxy-terminal 132 amino acid residues that contains the characteristic conserved cysteine residues involved in the formation of the cysteine knot and the interchain disulfide bond. Cellular responses to Dpp have been shown to be mediated by the ligand-induced formation of heteromeric complexes of the *Drosophila* type I, Thick Veins (Tkv), and type II, Punt, serine/threonine kinases. The activated receptor complex induces the phosphorylation of the prototypical Smad, Mad, and subsequent translocation of the Mad-Medea complex to the nucleus where they regulate the transcription of target genes. Secreted extracellular Dpp antagonists, including the short-gastrulation (Sog) and twisted gastrulation (TSG), which bind Dpp and regulate its availability, have been identified.

### References:

1. Raftery, L.A. and D.J. Sutherland (1999) Dev. Biol. **210**:251.
2. Ruberte, E. *et al.* (1995) Cell **80**:890.