

DESCRIPTION

Species Reactivity	<i>Drosophila</i>
Specificity	Detects <i>Drosophila</i> Smad2 in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant human (rh) Smad1 is observed, and less than 1% cross-reactivity with rhSmad2, rhSmad3, and rhSmad5 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant <i>Drosophila</i> Smad2 Gly262-Ser486 Accession # O96660
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Smad2 (SMALL body plus Mothers Against Decapentaplegic; also SmoX [Smad on Chr X]) is a 54 kDa (predicted) member of the receptor regulated Smad family of proteins. It is a downstream component of the *Drosophila* activin/TGFβ signaling pathway, and appears to play a key role in cell proliferation. Analogous to the system in vertebrates, stimulation of the fruitfly activin type I receptor (baboon):type II receptor (punt) complex results in dSmad2 (*Drosophila* Smad2) phosphorylation and subsequent interaction with dSmad4/Medea. As in vertebrates, the *Drosophila* Smad2/Smad4 complex enters the nucleus and interacts with a transcriptional cofactor(s) termed TGIF. At this point, the vertebrate:invertebrate systems diverge over the nature of the TGIF cofactor(s); vertebrate TGIF is a corepressor, while invertebrate TGIF (dTGIF) is a coactivator. *Drosophila* Smad2 is 486 amino acids (aa) in length. It contains two Mad homology domains (aa 7-130 and 285-475), the former of which participates in DNA-binding. Over aa 262-486, *Drosophila* Smad2 shares 70% aa sequence identity with both mouse and human Smad2.

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