

#### DESCRIPTION

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| <b>Species Reactivity</b>                                                                                                                                                                               | Human/Mouse                                                                                                                         |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human Smad9 in direct ELISAs. In direct ELISAs, approximately 5% cross-reactivity with recombinant human Smad1 is observed. |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Sheep IgG                                                                                                                |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                                                           |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human Smad9<br>Ala158-Ser223<br>Accession # O15198                                              |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm                                                     |
| <b>Formulation</b>                                                                                                                                                                                      | 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.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Immunocytochemistry</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

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|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <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

SMAD9 (SMA protein and Mothers Against Decapentaplegic 9; also SMAD8 and MAHD6) is a 55-60 kDa R-Group member of the dwarfin/SMAD family of proteins. It is expressed by BMP-responsive cells, and serves to transmit information from the BMP receptor (BMPR) to the nucleus. In particular, following BMPR activation, SMAD9 is phosphorylated by the BMPR on its C-terminus, promoting heterodimerization with SMAD4 and its translocation into the nucleus. Here, SMAD9 binds to DNA and participates in gene activation. Human SMAD9 is 467 amino acids (aa) in length. It contains a DNA-binding domain termed MH1 (aa 16-140) plus a receptor/transcription factor binding domain termed MH2 (aa 273-467). The C-terminus contains two phosphorylation sites at Ser465 and Ser467. There is one splice form that shows a deletion of aa 224-260. Over aa 158-223, human and mouse SMAD9 share 82% identity in amino acid sequence.

#### PRODUCT SPECIFIC NOTICES

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