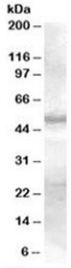
SMAD9 Antibody (R34284)

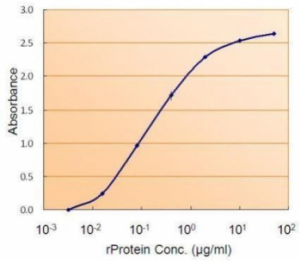
Catalog No.	Formulation	Size
R34284-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

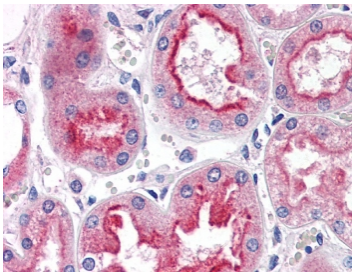
Availability	1-3 business days
Species Reactivity	Human
Predicted Reactivity	Mouse, Rat, Dog
Format	Antigen affinity purified
Host	Goat
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
Gene ID	4093
Localization	Cytoplasmic, nuclear
Applications	Western Blot : 0.3-1.0 ug/ml IHC (FFPE) : 5ug/ml ELISA (peptide) LOD : 1:64000
Limitations	This SMAD9 antibody is available for research use only.



Western blot testing of human skin lysate with SMAD9 antibody at 0.3ug/ml. Predicted molecular weight: ~49 kDa.



Sandwich ELISA using SMAD9 antibody (1.5ug/ml) as the detect.



IHC testing of FFPE human kidney tissue with SMAD9 antibody at 5ug/ml. Required HIER: steamed antigen retrieval with pH6 citrate buffer; AP-staining.

Description

SMAD9 Antibody recognizes Smad family member 9, a receptor-regulated SMAD protein that functions as a key intracellular mediator of bone morphogenetic protein (BMP) signaling. Smad family member 9, also widely referred to as SMAD8 and Mothers against decapentaplegic homolog 9 in the literature, is activated downstream of BMP type I receptors through phosphorylation and subsequently translocates to the nucleus to regulate target gene transcription. SMAD9 Antibody is used in research settings to study BMP-driven transcriptional programs that control cell fate decisions, differentiation, and tissue homeostasis.

Smad family member 9 is encoded by the SMAD9 gene and is primarily localized in the cytoplasm under basal conditions, with nuclear accumulation occurring following pathway activation. It forms heteromeric complexes with the common mediator SMAD4 to regulate expression of BMP-responsive genes. SMAD9 expression is detected in multiple tissues, with prominent roles in skeletal development, vascular biology, and cellular differentiation processes. Because of its regulated nuclear translocation and pathway-specific activation, SMAD9 Antibody supports investigations into BMP signaling dynamics and transcriptional regulation in developmental and cellular biology models.

In disease-related research, SMAD9 has gained attention due to its involvement in developmental disorders and cancer-associated signaling alterations. Variants and dysregulation of SMAD9 have been linked to abnormal bone formation, pulmonary vascular disease, and tumor progression in specific contexts. SMAD9 Antibody enables analysis of expression patterns and subcellular localization changes that may reflect altered BMP pathway activity in pathological samples. Clone-specific reagents such as SMAD9 Antibody can therefore aid studies focused on pathway modulation, signal transduction, and transcriptional control mechanisms relevant to disease biology.

Beyond pathology, SMAD9 plays an important role in lineage specification and tissue patterning during embryogenesis, particularly in processes governed by BMP gradients. SMAD9 Antibody allows visualization and characterization of SMAD9-positive cells, supporting detailed examination of BMP-responsive cell populations and their regulatory networks in experimental systems.

Application Notes

Optimal dilution of the SMAD9 antibody should be determined by the researcher.

1. This SMAD9 antibody will not detect SMAD1 and SMAD5.

Immunogen

Amino acids HSEPLMPHNATYPD were used as the immunogen for this SMAD9 antibody.

Storage

Aliquot and store the SMAD9 antibody at -20oC.