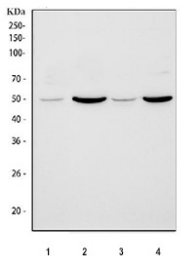
SMAD3 Antibody (R32172)

Catalog No.	Formulation	Size
R32172	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P84022
Localization	Nuclear and cytoplasmic
Applications	Western Blot : 0.5-1ug/ml
Limitations	This SMAD3 antibody is available for research use only.



Western blot testing of 1) human HeLa, 2) rat brain, 3) rat C6 and 4) mouse brain tissue lysate with SMAD3 antibody. Routinely observed at a molecular weight of 48~56 kDa.

Description

SMAD3 (Mothers against decapentaplegic homolog 3) is a key intracellular mediator of the transforming growth factor-beta (TGF-ÃŽÂ²) signaling pathway. Belonging to the SMAD family of proteins, SMAD3 functions as a transcription factor that transduces signals from activated TGF-ÃŽÂ² receptors to the nucleus. Upon phosphorylation, SMAD3 forms complexes with SMAD4 and regulates the transcription of genes involved in cell growth, differentiation, apoptosis, and immune responses. A SMAD3 antibody is widely used in research focused on TGF-ÃŽÂ² signaling and its role in disease.

SMAD3 is critically involved in maintaining tissue homeostasis and regulating extracellular matrix production.

Dysregulation of SMAD3 has been implicated in fibrosis, where persistent TGF-ÃŽÂ² signaling drives excessive collagen deposition and scarring in organs such as the lung, liver, and kidney. A SMAD3 antibody allows researchers to study protein levels, localization, and activation states, offering insights into pathological remodeling processes.

In addition to fibrotic disease, SMAD3 has been linked to cancer biology, where it can act either as a tumor suppressor or as a promoter of tumor progression, depending on cellular context. It also plays an essential role in immune regulation, influencing T-cell differentiation and inflammatory responses. These diverse functions make SMAD3 a critical target for therapeutic research. Using a SMAD3 antibody supports investigations into these pathways and their potential modulation in disease treatment.

NSJ Bioreagents provides a high-quality SMAD3 antibody validated for applications such as western blot, immunohistochemistry, and immunofluorescence. By selecting a SMAD3 antibody from NSJ Bioreagents, researchers can rely on dependable performance for TGF-ÃŽÂ² signaling and disease research.

Application Notes

Optimal dilution of the SMAD3 antibody should be determined by the researcher.

Immunogen

Amino acids DHQMNHSMDAGSPNLSPNPMSPAHNNLDLQ of human SMAD3 were used as the immunogen for the SMAD3 antibody.

Storage

After reconstitution, the SMAD3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.