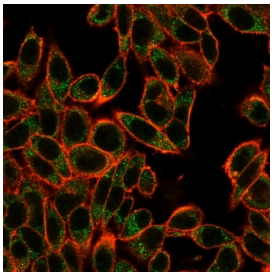
SMAD3 Antibody / TGF-beta Signaling Protein Antibody [clone PCRP-SMAD3-1A2] (V9231)

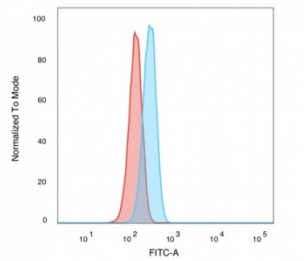
Catalog No.	Formulation	Size
V9231-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9231-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20
V9231SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100

Bulk quote request

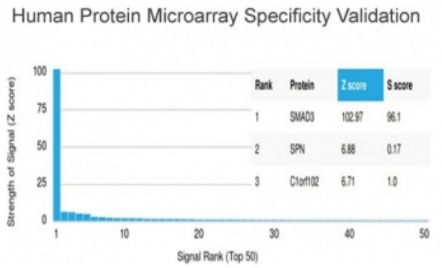
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1
Clone Name	PCRP-SMAD3-1A2
Purity	Protein A/G affinity
UniProt	P84022
Localization	Cytoplasm, Nucleus
Applications	Flow cytometry: 1-2ug/million cells Immunofluorescence: 1-2ug/ml
Limitations	This SMAD3 Antibody / TGF-beta Signaling Protein Antibody is available for research use only.



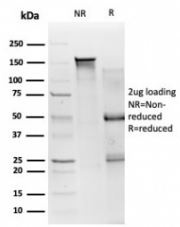
SMAD3 Antibody HeLa Cell IF. Immunofluorescence staining was performed on paraformaldehyde-fixed human HeLa cells using SMAD3 Antibody clone PCRP-SMAD3-1A2 (green). F-actin was counterstained with phalloidin (red). Distinct cytoplasmic and nuclear staining is observed, consistent with the intracellular distribution of SMAD3, while phalloidin clearly delineates the actin cytoskeleton and cell morphology. These results demonstrate that this TGF-beta Signaling Protein Antibody, a Protein Microarray Validated mouse monoclonal, is suitable for immunofluorescent detection of SMAD3 in cultured human cells.



SMAD3 Antibody HeLa Cell FACS. Flow cytometric analysis was performed on paraformaldehyde-fixed human HeLa cells using SMAD3 Antibody clone PCRP-SMAD3-1A2. The red histogram represents unstained cells, while the blue histogram represents cells stained with the SMAD3 antibody. A clear rightward shift of the stained cell population relative to the unstained control demonstrates specific antibody binding and confirms SMAD3 expression in HeLa cells. These results demonstrate that this TGF-beta Signaling Protein Antibody, a Protein Microarray Validated mouse monoclonal, is suitable for flow cytometric detection of SMAD3.



SMAD3 Antibody Protein Microarray Validation. Specificity of SMAD3 Antibody clone PCRP-SMAD3-1A2 was evaluated using the HuProt Protein Microarray containing more than 19,000 full-length human proteins. SMAD3 ranked as the top target with a Z-score of 102.97 and an S-score of 96.1, demonstrating exceptional specificity relative to all other proteins on the array. These findings confirm that this TGF-beta Signaling Protein Antibody is Protein Microarray Validated, providing researchers with high confidence in target specificity. The Z-score reflects the strength of antibody binding to a given protein relative to the array background, while the S-score measures target specificity by comparing the Z-score of the intended target with that of the next highest-ranking protein.



SDS-PAGE analysis of purified, BSA-free SMAD3 antibody (PCRP-SMAD3-1A2) as confirmation of integrity and purity.

Description

SMAD3 Antibody recognizes SMAD3, a receptor-regulated intracellular signaling protein that functions as a central mediator of transforming growth factor beta signaling. Encoded by the SMAD3 gene, this transcriptional regulator is activated following phosphorylation by transforming growth factor beta receptors, allowing it to associate with SMAD4 and translocate to the nucleus where it regulates the expression of numerous target genes. Through these activities, SMAD3 influences cell proliferation, differentiation, extracellular matrix production, immune regulation, apoptosis, and tissue repair. Because of its central position within this highly conserved signaling pathway, SMAD3 has become one of the most extensively studied mediators of transforming growth factor beta responses. NSJ Bioreagents offers this SMAD3 Antibody, clone PCRP-SMAD3-1A2, as a Protein Microarray Validated mouse monoclonal antibody for reliable research applications.

Transforming growth factor beta signaling regulates numerous developmental and homeostatic processes throughout the body. Following ligand binding, activated receptors phosphorylate receptor-regulated SMAD proteins, including SMAD3, which subsequently form transcriptionally active complexes that coordinate gene expression programs in conjunction with additional nuclear cofactors. Depending on cellular context, SMAD3 can promote or suppress specific transcriptional responses, contributing to tightly regulated control of cellular growth, differentiation, inflammation, and extracellular matrix remodeling. Researchers commonly employ SMAD3 Antibody to investigate protein localization, expression, and signaling activity in studies of cell biology, developmental biology, immunology, fibrosis, and cancer.

Altered SMAD3 activity has been implicated in numerous pathological conditions, including tissue fibrosis, cardiovascular disease, inflammatory disorders, and tumor progression. As a principal downstream effector of transforming growth factor beta receptors, SMAD3 is widely investigated for its role in epithelial-to-mesenchymal transition, wound healing, immune cell regulation, and connective tissue remodeling. These diverse biological functions continue to make SMAD3 an

important molecular target in both basic and translational research. Clone PCRP-SMAD3-1A2 has also been Protein Microarray Validated, demonstrating high specificity and providing researchers with additional confidence when evaluating SMAD3 expression across experimental systems.

SMAD3 Antibody supports the investigation of transforming growth factor beta signaling through the detection and characterization of this key intracellular signaling mediator. Protein Microarray Validated clone PCRP-SMAD3-1A2 provides a valuable tool for studies of signal transduction, transcriptional regulation, fibrosis, development, and disease-associated changes involving TGF-beta Signaling Protein SMAD3.

Explore our Signal Transduction Antibodies page to discover additional antibodies for studying TGF-beta signaling, kinase pathways, transcriptional regulators, and other intracellular signaling proteins.

Application Notes

Optimal dilution of the SMAD3 Antibody / TGF-beta Signaling Protein Antibody should be determined by the researcher.

Immunogen

Recombinant full-length human SMAD3 protein was used as the immunogen for the SMAD3 antibody.

Storage

Aliquot the SMAD3 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Mothers Against Decapentaplegic Homolog 3 antibody, MADH3 antibody, Mothers Against DPP Homolog 3 antibody, SMAD Family Member 3 antibody, TGF-beta Signal Transducer SMAD3 antibody, Receptor-Regulated SMAD3 antibody

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