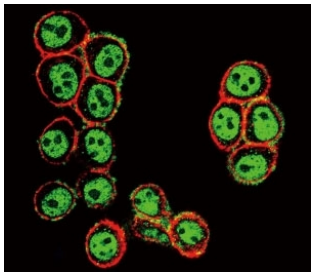
Phospho-SMAD3 (S208) Antibody / Phosphorylated SMAD3 Antibody (F48449)

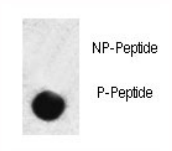
Catalog No.	Formulation	Size
F48449-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F48449-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Predicted Reactivity	Mouse, Rat, Pig, Chicken
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P84022
Applications	Immunofluorescence: 1:10-1:100 Dot blot: 1:500
Limitations	This Phospho-SMAD3 (S208) Antibody / Phosphorylated SMAD3 Antibody is available for research use only.



Phospho-SMAD3 (S208) Antibody HeLa Cell IF. Confocal immunofluorescence was performed on human HeLa cells using Phospho-SMAD3 (S208) Antibody, followed by an Alexa Fluor 488-conjugated goat anti-rabbit IgG secondary antibody (green). F-actin was counterstained with Alexa Fluor 555-conjugated phalloidin (red). Prominent nuclear fluorescence is observed, consistent with activated phosphorylated SMAD3, while the actin cytoskeleton is clearly delineated by phalloidin staining. These results demonstrate that this Phosphorylated SMAD3 Antibody is suitable for confocal immunofluorescent detection of SMAD3 phosphorylated at serine 208.



Phospho-SMAD3 (S208) Antibody Phospho-Peptide Dot Blot. Dot blot analysis was performed to evaluate the phospho-specificity of Phospho-SMAD3 (S208) Antibody. Equal amounts (50 ng) of phosphorylated SMAD3 (S208) peptide (P-peptide) and the corresponding non-phosphorylated peptide (NP-peptide) were spotted onto the membrane. The antibody specifically recognizes the phosphorylated peptide, while no detectable binding is observed to the non-phosphorylated control. These results demonstrate that this Phosphorylated SMAD3 Antibody exhibits excellent phosphorylation site specificity for serine 208, supporting its use in studies of SMAD3 activation.

Description

Phospho-SMAD3 (S208) Antibody specifically recognizes SMAD3 phosphorylated at serine 208, enabling researchers to distinguish activated signaling intermediates from total SMAD3 protein. SMAD3 is a receptor-regulated intracellular signaling protein encoded by the SMAD3 gene that functions as a principal mediator of transforming growth factor beta signaling. While total SMAD3 antibodies measure overall protein abundance, phosphorylation-specific antibodies provide insight into pathway activation by detecting post-translational modifications associated with cellular signaling events. Phospho-SMAD3 (S208) Antibody therefore serves as an important tool for investigating dynamic regulation of transforming growth factor beta signaling in normal physiology and disease. NSJ Bioreagents supplies this phospho-specific antibody for research applications requiring selective detection of phosphorylated SMAD3.

SMAD3 activity is tightly regulated through multiple phosphorylation events that influence protein conformation, intracellular localization, protein-protein interactions, transcriptional activity, and signaling duration. Following activation of transforming growth factor beta receptors and other regulatory pathways, phosphorylated SMAD3 forms transcriptional complexes that translocate to the nucleus to regulate genes involved in cell proliferation, differentiation, extracellular matrix production, immune responses, and tissue remodeling. Site-specific phosphorylation events, including serine 208, may reflect distinct regulatory mechanisms and signaling states, making phospho-specific antibodies valuable tools for mechanistic studies of pathway activation and cellular responses.

Aberrant SMAD3 phosphorylation has been associated with numerous biological processes and disease models, including fibrosis, cancer progression, inflammatory disorders, cardiovascular disease, and epithelial-to-mesenchymal transition. Consequently, Phospho-SMAD3 (S208) Antibody is frequently employed alongside total SMAD3 antibodies to distinguish changes in protein activation from changes in protein expression. This complementary approach allows investigators to evaluate signaling pathway activity more accurately while examining the effects of growth factors, kinase inhibitors, therapeutic compounds, or experimental treatments on transforming growth factor beta signaling.

Phospho-SMAD3 (S208) Antibody supports investigations of transforming growth factor beta signaling by selectively detecting phosphorylated SMAD3 in experimental systems. The ability to monitor phosphorylation at serine 208 provides researchers with a valuable approach for studying signaling pathway activation, transcriptional regulation, fibrosis, cancer biology, and other cellular processes regulated through SMAD3 phosphorylation.

To learn more about this target, explore our SMAD3 Antibody / TGF-beta Signaling Protein Antibody page featuring additional information and antibodies for SMAD3 detection.

Application Notes

Titration of the Phospho-SMAD3 (S208) Antibody / Phosphorylated SMAD3 Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

This Phospho-SMAD3 (S208) Antibody was produced from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding pS208 of human SMAD3.

Storage

Aliquot the Phospho-SMAD3 (S208) Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Phosphorylated SMAD3 antibody, Phospho Mothers Against Decapentaplegic Homolog 3 antibody, Phospho MADH3 antibody, Phospho SMAD Family Member 3 antibody, Phospho TGF-beta Signaling Protein antibody, Phospho SMAD3 Ser208 antibody

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