10320 Camino Santa Fe, Suite G
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Anti-SMAD5 Antibody (4B10-B10-B6)

Mouse Monoclonal Antibody

Catalog # ABV12070

Specification

Anti-SMAD5 Antibody (4B10-B10-B6) - Product Information

Application	**WB, ICC, FC**
Primary Accession	Q99717
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse IgG1**

Anti-SMAD5 Antibody (4B10-B10-B6) - Additional Information

Gene ID 4090

Application & Usage	**WB: Hela, Jurkat and K562 cell lysates; IF: HeLa cells; FC: Jurkat cells**

Other Names
Mothers against decapentaplegic homolog 5, MAD homolog 5, Mothers against DPP homolog 5, JV5-1, SMAD family member 5, SMAD 5, Smad5, hSmad5

Target/Specificity
SMAD5

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
In buffer containing 0.1M Tris-Glycine (pH 7.4, 150 mM NaCl) with 0.2% sodium azide, 50% glycerol

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
Anti-SMAD5 Antibody (4B10-B10-B6) is for research use only and not for use in diagnostic or therapeutic procedures.

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Anti-SMAD5 Antibody (4B10-B10-B6) - Protein Information

Name SMAD5

Synonyms MADH5

Function
Transcriptional regulator that plays a role in various cellular processes including embryonic development, cell differentiation, angiogenesis and tissue homeostasis (PubMed:16516194, PubMed:12064918). Upon BMP ligand binding to their receptors at the cell surface, is phosphorylated by activated type I BMP receptors (BMPRIs) and associates with SMAD4 to form an heteromeric complex which translocates into the nucleus acting as transcription factor (PubMed:9442019). In turn, the hetero-trimeric complex recognizes cis- regulatory elements containing Smad Binding Elements (SBEs) to modulate the outcome of the signaling network (PubMed:33510867). Non-phosphorylated SMAD5 has a cytoplasmic role in energy metabolism regulation by promoting mitochondrial respiration and glycolysis in response to cytoplasmic pH changes (PubMed:28675158). Mechanistically, interacts with hexokinase 1/HK1 and thereby accelerates glycolysis (PubMed:28675158).

Cellular Location
Cytoplasm. Nucleus Mitochondrion. Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4

Tissue Location
Ubiquitous.

Anti-SMAD5 Antibody (4B10-B10-B6) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-SMAD5 Antibody (4B10-B10-B6) - Images

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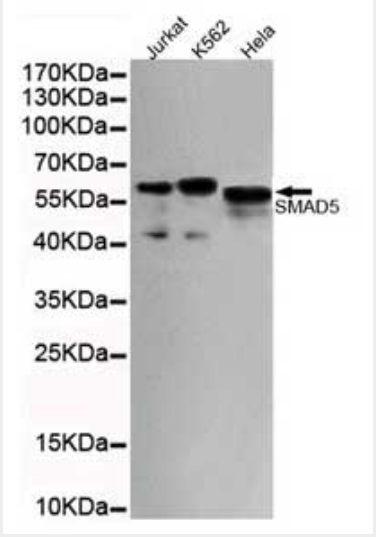
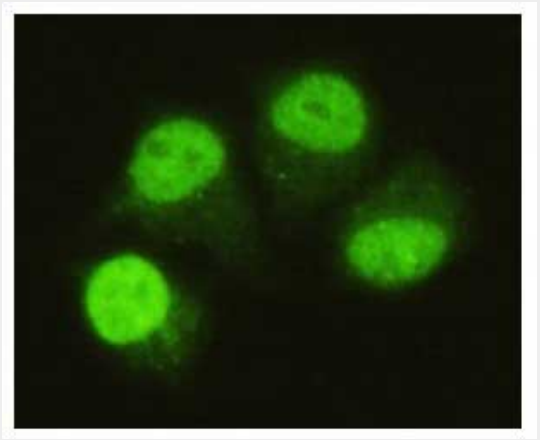
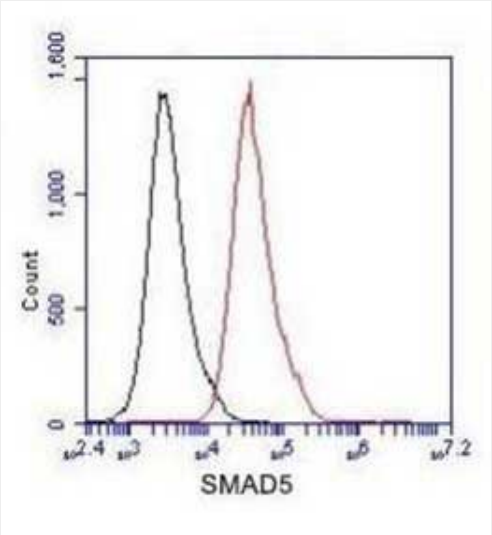


Western blot detection of SMAD5 (C-terminus) in Hela, Jurkat and K562 cell lysates using SMAD5 (C-terminus) Antibody



Immunocytochemistry of HeLa cells using anti-SMAD5 (C-terminus) Antibody



Flow Cytometry analysis of Jurkat cells stained with SMAD5 (red, 1/100 dilution), followed by FITCconjugated goat anti-mouse IgG

Anti-SMAD5 Antibody (4B10-B10-B6) - Background

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Transcriptional modulator activated by BMP (bone morphogenetic proteins) type 1 receptor kinase. SMAD5 is a receptor-regulated SMAD (R-SMAD).