

Mouse Anti-SMAD5 [3H9]: MC0355

Intended Use: For Research Use Only

Description: SMAD5, MAD homolog 5, Mothers against DPP homolog 5, JV5-1, SMAD family member 5 encoded by the gene named SMAD5 or MADH5 is a transcriptional cofactor activated by BMP type 1 receptor kinase and like other SMAD family members SMAD5 belongs to the larger TGFbeta superfamily of signaling modulators. SMAD5 forms complexes with SMAD4 when phosphorylated by BMPR1 and migrates to the nucleus. In the absence of phosphorylation SMAD5 is cytoplasmically localized. SMAD5 levels are regulated via ubiquitin mediated proteolysis facilitated by the E3 ligase SMURF1. SMAD5 is involved in many developmental pathways including in hematopoietic cells where SMAD5 activity is involved in the inhibition of the proliferation of hematopoietic progenitor cells. More recent research has shown SMAD5 to be involved in many other pathways too, for instance homozygous mutants die early in development and display a variable phenotype. Moreover SMAD5 is critical for proper granule cell development in the cerebellum. Finally because SMAD5 belongs to the TGFbeta family whose normal function is usually growth suppression, SMAD5 is often mutated in many cancers and its expression is associated with many forms of cancers in a similar fashion to that of its other family members.

Specifications

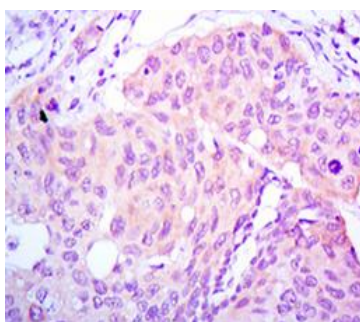
Clone:	3H9
Source:	Mouse
Isotype:	IgG1
Reactivity:	Human, rat
Localization:	Nucleus, cytoplasm
Formulation:	Antibody in PBS pH7.4, containing BSA and $\leq 0.09\%$ sodium azide (NaN ₃)
Storage:	Store at 2°- 8°C
Applications:	IHC, Flow Cyt., ICC/IF, WB
Package:	

Description	Catalog No.	Size
SMAD5 Concentrated	MC0355	1 ml

IHC Procedure

Positive Control Tissue:	Testis, skin, PC-12 and HEK293 cells, HeLa cells
Concentrated Dilution:	10-100
Pretreatment:	Citrate pH6.0 or EDTA pH8.0, 15 min Pressure Cooker or 30-60 min water bath at 95°-99°C
Incubation Time and Temp:	30-60 minutes @ RT
Detection:	Refer to the detection system manual

* Result should be confirmed by an established diagnostic procedure.



FFPE human lung cancer stained with anti-SMAD5 using DAB

References:

1. ALK5 and ALK1 play antagonistic roles in transforming growth factor β -induced podosome formation in aortic endothelial cells. Curado F, et al. Mol Cell Biol 34:4389-403, 2014.
2. Antagonism of Nodal signaling by BMP/Smad5 prevents ectopic primitive streak formation in the mouse amnion. Pereira PN, et al. Development 139:3343-54, 2012.
3. Derivation, characterization and differentiation of a new human embryonic stem cell line from a Chinese hatched blastocyst assisted by a non-contact laser system. Wu R, et al. Hum Cell 23:89-102, 2010.