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DATA SHEET

Mouse Anti-SMAD4 (DPC4) [SPM448]: MC0423, MC0423RTU7

Intended Use: For Research Use Only

Description: Signaling from the ligand-activated membrane receptor serine/threonine kinases to nuclear targets is mediated by a set of evolutionarily conserved proteins known as DCP4. Upon ligand binding, the receptors of the TGF-β family phosphorylate SMAD proteins (SMAD1 and SMAD2). These proteins then move into the nucleus, where they activate transcription. To carry out this function, the receptor activated SMAD1 and 2 require association with the product of deleted in pancreatic carcinoma, locus 4 (DPC4), also known as SMAD4. SMAD4/DPC4 is also implicated as a tumor suppressor, since it is inactivated in more than half of pancreatic carcinomas and to a lesser extent in a variety of other cancers. The lack of SMAD4 expression is present in approximately 80% of cases of pancreatic adenocarcinoma, but rarely in endometrial (0%), colorectal (0%), ovarian (3%), lung (0%), breast (2% adenocarcinomas, and malignant melanoma (4%). SMAD4 is an important marker for confirming a diagnosis of pancreatic adenocarcinoma. Patients with pancreatic adenocarcinomas with SMAD4 protein expression had significantly longer survival than SMAD4 negative.

Specifications

Clone:	SPM448
Source:	Mouse
Isotype:	IgG2a/k
Reactivity:	Human
Immunogen:	Recombinant full-length human SMAD4 protein
Localization:	Nucleus, cytoplasm
Formulation:	Antibody in PBS pH7.4, containing BSA and ≤ 0.09% sodium azide (NaN3)
Storage:	Store at 2°- 8°C
Applications:	IHC

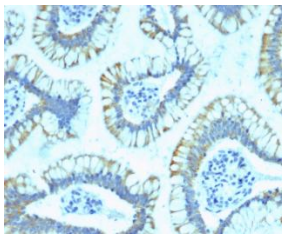
Package:

Description	Catalog No.	Size
SMAD4 (DPC4) Concentrated	MC0423	1 ml
SMAD4 (DPC4) Prediluted	MC0423RTU7	7 ml

IHC Procedure

Positive Control Tissue:	Pancreatic adenocarcinoma
Concentrated Dilution:	50-200
Pretreatment:	Tris EDTA pH9.0, 15 minutes using Pressure Cooker, or 30-60 minutes using 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 colon carcinoma stained with anti-SMAD4 using DAB

References:

1. Levels of Regulatory Proteins Associated With Cell Proliferation in Endometria From Untreated Patients Having Polycystic Ovarian Syndrome With and Without Endometrial Hyperplasia. Bacallao, K. et al. Reproductive sciences (Thousand Oaks, Calif.). 23: 211-8, 2016.
2. Regulation of Bone Morphogenetic Protein Signaling by ADP-ribosylation. Watanabe, Y. et al. J. Biol. Chem.. 291: 12706-23, 2016.
3. Sika Deer Antler Collagen Type I-Accelerated Osteogenesis in Bone Marrow Mesenchymal Stem Cells via the Smad Pathway Evidence-Based Complementary and Alternative Medicine. Na Li, et al. 2016: 13.

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