

**Mouse Anti-SMAD4 (DPC4) [B-8]: MC0533, MC0533RTU7**

**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 DPC4. Upon ligand binding, the receptors of the TGF- $\beta$  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**

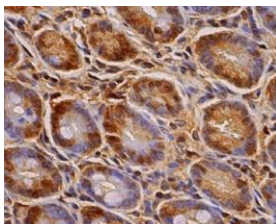
Clone: B-8  
 Source: Mouse  
 Isotype: IgG1k  
 Reactivity: Human, mouse, rat  
 Localization: Nucleus  
 Formulation: Antibody in PBS pH7.4, containing BSA and  $\leq 0.09\%$  sodium azide (NaN<sub>3</sub>)  
 Storage: Store at 2°- 8°C  
 Applications: IHC, ELISA, Flow Cyt., ICC/IF, IP, WB  
 Package:

Description	Catalog No.	Size
SMAD4 (DPC4) Concentrated	MC0533	1 ml
SMAD4 (DPC4) Prediluted	MC0533RTU7	7 ml

**IHC Procedure**

Positive Control Tissue: Pancreatic adenocarcinoma  
 Concentrated Dilution: 50-250  
 Pretreatment: EDTA pH8.0, 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 tissue 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.
4. Ahnak stimulates BMP2-mediated adipocyte differentiation through Smad1 activation. Shin, S. et al. Obesity (Silver Spring, Md.). 24: 398-407, 2016.

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Rev. A

Orders: [customercare@medaysis.com](mailto:customercare@medaysis.com) Support: [techsupport@medaysis.com](mailto:techsupport@medaysis.com) Tel: 510-509-3153 [www.medaysis.com](http://www.medaysis.com)

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