Sigma-Aldrich®
Lab & Production Materials

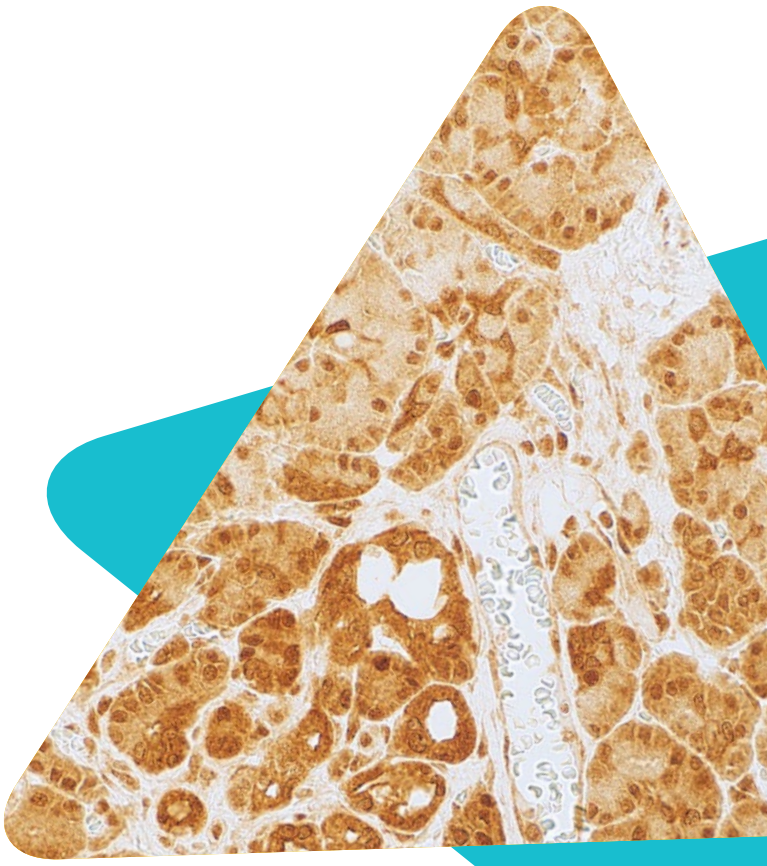
MilliporeSigma

Cell Marque™ Tissue Diagnostics

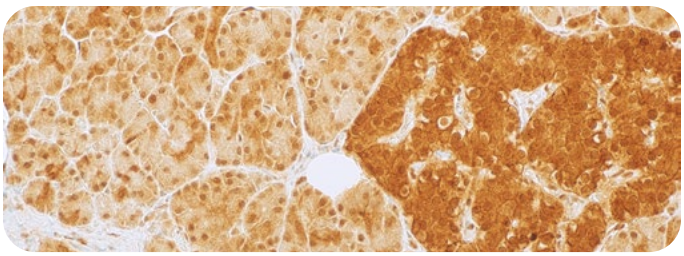
SMAD4 (MRQ-72)

Rabbit Monoclonal Antibody

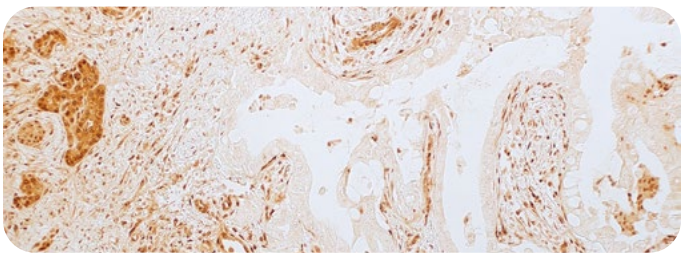
Mothers Against Decapentaplegic Homolog 4 (SMAD4) is a transcription factor that is involved in TGFβ signaling pathways and acts as a tumor suppressor[1]. SMAD4 is commonly expressed in a variety of cancers, including pancreatic ductal adenocarcinoma (PDA), colorectal carcinoma (CRC), hepatocellular carcinoma (HCC), and gastric carcinomas, as well as non-neoplastic liver, pancreas, and colon.[2-5] However, a loss of expression has been observed in a subset of PDA, CRC and gastric carcinomas due to a variety of mutations including nonsense, missense, deletions, and splice site changes.[2-4,6] In contrast, SMAD4 is over-expressed in HCC compared to the weak expression that is exhibited in non-neoplastic liver.[5]



Pancreatic Ductal Adenocarcinoma
(loss of expression)



Pancreatic Tissue



Pancreatic Tissue

Ordering Information:

Description	Cat No.
0.1 mL concentrate	**487R-94**
0.5 mL concentrate	**487R-95**
1.0 mL concentrate	**487R-96**
1.0 mL predilute ready-to-use	**487R-97**
7.0 mL predilute ready-to-use	**487R-98**

Intended Use:

SMAD4 (MRQ-72) Rabbit Monoclonal Antibody is intended for laboratory use in the detection of the SMAD4 protein in formalin-fixed, paraffin-embedded human tissue stained in qualitative immunohistochemistry (IHC) testing. The results using this product should be interpreted by a qualified pathologist in conjunction with the patient's relevant clinical history, other diagnostic tests and proper controls.

Product Information:

Visualization: Cytoplasmic, Nuclear
Controls: Pancreas

Dilution Range: 1:25-1:50
Associated Specialty: Gastrointestinal (GI) Pathology

References:

1. Liu F, et al. Dual role of the Smad4/DPC4 tumor suppressor in TGFβ-inducible transcriptional complexes. Genes Dev 1997;11(23):3157-3167
2. Ritterhouse LL, et al. Loss of SMAD4 protein expression in gastrointestinal and extragastrointestinal carcinomas. Histopath 2019;75(4):546-551
3. Salovaara R, et al. Frequent loss of SMAD4/DPC4 protein in colorectal cancers. Gut 2002;51(1):56-59
4. Kim YH, et al. Prognostic significance of the expression of Smad4 and Smad7 in human gastric carcinomas. Ann Oncol 2004;15(4):574-580
5. Torbenson M, et al. Smad4 overexpression in hepatocellular carcinoma is strongly associated with transforming growth factor beta II receptor immunolabeling. Hum Pathol. 2002;33(9):871-876
6. Woodford-Richens KL, et al. SMAD4 mutations in colorectal cancer probably occur before chromosomal instability, but after divergence of the microsatellite instability pathway. Proc Natl Acad Sci USA 2001;98(17):9719-23

Please note: The product featured belongs to the group in vitro diagnostic (IVD) medical devices. The product is FDA Class 1 in the US.

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