

DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human Smad2 in direct ELISAs.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Smad2 Lys20-Thr108 Accession # Q15796
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

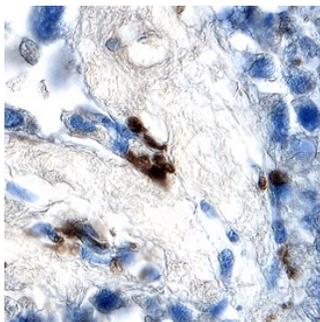
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



Smad2 in Human Pancreatic Cancer Tissue. Smad2 was detected in immersion fixed paraffin-embedded sections of human pancreatic cancer tissue using Goat Anti-Human Smad2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4037) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to nuclei. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

SMAD2 (Sma and MAD-related protein 2; also MAD2, MADR2 and MADH2) is a 58-62 kDa member of the dwarfin/SMAD family of proteins. It is widely expressed, particularly in striated muscle, and exists constitutively in the cytoplasm. SMAD2 is a downstream mediator of TGF-β and activin signaling. In particular, SMAD2 is a nonphosphorylated monomer in unstimulated cells. Upon ALK-4, -5, and -7 receptor activation, SMAD2 is phosphorylated and forms either homotrimers or heterotrimers with SMAD3 and SMAD4. These heterotrimers enter the nucleus and initiate gene transcription. Human SMAD2 is 467 amino acids (aa) in length. It contains one regulatory MH domain (aa 120-176) and a transactivation MH domain (aa 274-467). There are at least five utilized phosphorylation sites and one acetylation site at Lys19 that promotes transcriptional activity. There are four potential isoform variants. One shows a deletion of aa 79-108, while another contains the same deletion coupled to another deletion of aa 219-243. A third shows a deletion of aa 344-358, and a fourth is missing aa 221-225. Over aa 20-108, human SMAD2 shares 98% aa identity with mouse SMAD2.