

# p-Smad3 (Ser 208): sc-130218

## BACKGROUND

Smad proteins, the mammalian homologs of the *Drosophila* mothers against dpp (Mad) have been implicated as downstream effectors of TGF $\beta$ /BMP signaling. Smad1 (also designated Madr1 or JV4-1), Smad5 and mammalian Smad8 (also designated Smad9 or MadH6) are effectors of BMP-2 and BMP-4 function while Smad2 (also designated Madr2 or JV18-1) and Smad3 are involved in TGF $\beta$  and activin-mediated growth modulation. Smad4 (also designated DPC4) has been shown to mediate all of the above activities through interaction with various Smad family members. Smad6 and Smad7 regulate the response to activin/TGF $\beta$  signaling by interfering with TGF $\beta$ -mediated phosphorylation of other Smad family members. Smad3 is subject to phosphorylation by TGF $\beta$  on specific amino acid residues, including Ser 208.

## REFERENCES

- Liu, F., et al. 1996. A human Mad protein acting as a BMP-regulated transcriptional activator. *Nature* 381: 620-623.
- Epert, K., et al. 1996. MADR2 maps to 18q21 and encodes a TGF $\beta$ -regulated Mad-related protein that is functionally mutated in colorectal carcinoma. *Cell* 86: 543-552.

## CHROMOSOMAL LOCATION

Genetic locus: SMAD3 (human) mapping to 15q22.33.

## SOURCE

p-Smad3 (Ser 208) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 208 phosphorylated Smad3 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

p-Smad3 (Ser 208) is recommended for detection of Ser 208 phosphorylated Smad3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Smad3 siRNA (h): sc-38376, Smad3 shRNA Plasmid (h): sc-38376-SH and Smad3 shRNA (h) Lentiviral Particles: sc-38376-V.

Molecular Weight of Smad3: 54 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

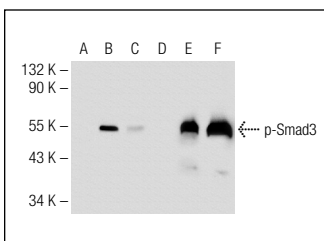
## STORAGE

Store at 4 $^{\circ}$  C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

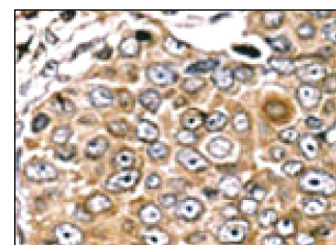
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## DATA



Western blot analysis of Smad3 phosphorylation in non-transfected: sc-117752 (A,D), untreated human Smad3 transfected: sc-116400 (B,E) and lambda protein phosphatase (sc-200312A) treated human Smad3 transfected: sc-116400 (C,F) 293T whole cell lysates. Antibodies tested include p-Smad3 (Ser 208): sc-130218 (A,B,C) and Smad2/3 (FL-425): sc-8332 (D,E,F).



p-Smad3 (Ser 208): sc-130218. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cancer tissue showing cytoplasmic staining.

## SELECT PRODUCT CITATIONS

- Levy, L., et al. 2007. Arkadia activates Smad3/Smad4-dependent transcription by triggering signal-induced SnoN degradation. *Mol. Cell. Biol.* 27: 6068-6083.
- Bokobza, S.M., et al. 2010. The growth and differentiation factor-9 promotes adhesive and motile capacity of prostate cancer cells by up-regulating FAK and Paxillin via Smad dependent pathway. *Oncol. Rep.* 24: 1653-1659.
- Li, Y., et al. 2010. Carcinoembryonic antigen interacts with TGF $\beta$  receptor and inhibits TGF $\beta$  signaling in colorectal cancers. *Cancer Res.* 70: 8159-8168.
- Fagone, E., et al. 2011. Resveratrol inhibits transforming growth factor- $\beta$ -induced proliferation and differentiation of *ex vivo* human lung fibroblasts into myofibroblasts through ERK/Akt inhibition and PTEN restoration. *Exp. Lung Res.* 37: 162-174.
- Chen, Y.K., et al. 2012. Overexpression of Smad proteins, especially Smad7, in oral epithelial dysplasias. *Clin. Oral Investig.* 17: 921-932.
- Wang, X., et al. 2013. Effects of TRAP-1-like protein (TLP) gene on collagen synthesis induced by TGF $\beta$ /Smad signaling in human dermal fibroblasts. *PLoS ONE* 8: e55899.
- Shyu, K.G., et al. 2013. Mechanical stretch via transforming growth factor- $\beta$ 1 activates microRNA208a to regulate endoglin expression in cultured rat cardiac myoblasts. *Eur. J. Heart Fail.* 15: 36-45.
- Yu, L., et al. 2013. Exosomes with membrane-associated TGF- $\beta$ 1 from gene-modified dendritic cells inhibit murine EAE independently of MHC restriction. *Eur. J. Immunol.* E-published.

## PROTOCOLS

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