

p-Smad1/5/8 (Ser 463/Ser 465): sc-12353

BACKGROUND

Smad proteins, the mammalian homologs of the *Drosophila* mothers against dpp (Mad), function downstream of TGF β receptor serine/threonine kinases and undergo serine phosphorylation in response to receptor activation. Following BMP (bone morphogenic protein) or TGF β binding to the targeted surface receptors, Smad1 (also designated Madr1 or JV4-1) becomes phosphorylated at Ser 463 and Ser 465. BMP binding induces phosphorylation of Smad1, which enhances the binding of Smad1 to CBP to stimulate Smad1-dependent transcription.

CHROMOSOMAL LOCATION

Genetic locus: SMAD1 (human) mapping to 4q31.21; Smad1 (mouse) mapping to 8 C2.

SOURCE

p-Smad1/5/8 (Ser 463/Ser 465) is available as either goat (sc-12353) or rabbit (sc-12353-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 463 and Ser 465 phosphorylated Smad1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12353 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-12353 X, 200 μ g/0.1 ml.

APPLICATIONS

p-Smad1/5/8 (Ser 463/Ser 465) is recommended for detection of Ser 463 and Ser 465 dually phosphorylated Smad1 of mouse and human origin, correspondingly phosphorylated Smad1 of rat, equine, canine, bovine, porcine and avian origin, and correspondingly phosphorylated Smad5 and Smad8 of mouse, rat, human, equine, canine, bovine, porcine and avian origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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). p-Smad1/5/8 (Ser 463/Ser 465) is also recommended for detection of correspondingly dually phosphorylated Smad1 and correspondingly phosphorylated Smad5 and Smad8 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Smad1 siRNA (h): sc-29483, Smad1 siRNA (m): sc-36507, Smad1 shRNA Plasmid (h): sc-29483-SH, Smad1 shRNA Plasmid (m): sc-36507-SH, Smad1 shRNA (h) Lentiviral Particles: sc-29483-V and Smad1 shRNA (m) Lentiviral Particles: sc-36507-V.

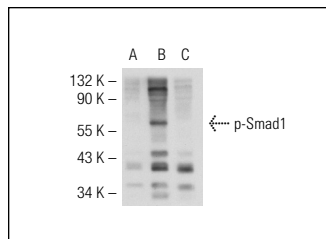
p-Smad1/5/8 (Ser 463/Ser 465) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Smad1/Smad5/Smad8: 52-56/52/52 kDa.

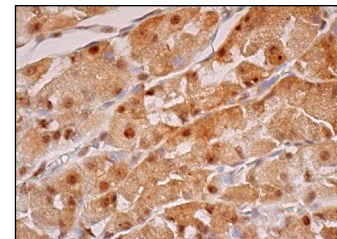
STORAGE

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

DATA



p-Smad1/5/8 (Ser 463/Ser 465)-R: sc-12353-R. Western blot analysis of Smad1 phosphorylation in untreated (A), PMA treated (B) and PMA and lambda protein phosphatase (sc-200312A) treated (C) HEK293 whole cell lysates.



p-Smad1/5/8 (Ser 463/Ser 465)-R: sc-12353-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Fortunel, N.O., et al. 2003. Long-term expansion of human functional epidermal precursor cells: promotion of extensive amplification by low TGF β 1 concentrations. *J. Cell Sci.* 116: 4043-4052.
- Wang, S., et al. 2009. Diabetes-relevant regulation of cultured blood outgrowth endothelial cells. *Microvasc. Res.* 78: 174-179.
- Sehgal, R., et al. 2009. BMP7 and SHH regulate Pax2 in mouse retinal astrocytes by relieving TLX repression. *Dev. Biol.* 332: 429-443.
- Chen, J., et al. 2010. Expression of bone morphogenetic protein 7 in lung cancer and its biological impact on lung cancer cells. *Anticancer Res.* 30: 1113-1120.
- Upadhyay, G., et al. 2011. Stem cell antigen-1 enhances tumorigenicity by disruption of growth differentiation factor-10 (GDF10)-dependent TGF- β signaling. *Proc. Natl. Acad. Sci. USA* 108: 7820-5782.
- Li, J., et al. 2011. Repulsive guidance molecules, novel bone morphogenetic protein co-receptors, are key regulators of the growth and aggressiveness of prostate cancer cells. *Int. J. Oncol.* 40: 544-550.
- Honoré, S.M., et al. 2011. Neuronal loss and abnormal BMP/Smad signaling in the myenteric plexus of diabetic rats. *Auton. Neurosci.* 164: 51-61.
- Xu, T., et al. 2011. Bone morphogenetic protein-4-induced epithelial-mesenchymal transition and invasiveness through Smad1-mediated signal pathway in squamous cell carcinoma of the head and neck. *Arch. Med. Res.* 42: 128-137.
- Chau, J.F., et al. 2012. A crucial role for bone morphogenetic protein-Smad1 signalling in the DNA damage response. *Nat. Commun.* 3: 836.

RESEARCH USE

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