

Code No. 28031

Anti-Smad3C (Ser 423/425 Phosphorylated) Rabbit IgG Affinity PurifyVolume : 50 µg

Introduction : Phosphorylation of signal transduction molecules Smad3, can be an important information for understanding of various biological functions of transforming growth factor (TGF)- β . TGF- β type I receptor and mitogen activated protein kinase (MAPK) phosphorylate Smad3 at the C-terminals and at linker (middle) regions respectively (ref. 1, 2). In epithelial homeostasis, TGF- β mediated pSmad3C signaling opposes proliferative responses induced by mitogenic signals. During carcinogenesis, activation of cytoplasmic Ras-associated kinases including MAPK confers a selective advantage on benign tumors by shifting Smad3 signaling from a tumor-suppressive pSmad3C to an oncogenic pSmad3L pathway. This antibody is applicable for enzyme biochemical analysis of Smad3 signaling and makes it possible to visualize the intermolecular reaction of phosphorylated Smad3 signaling in human tissues and monitor them in real-time. Thus, analysis of Smad3 signaling with this antibody is expected to be widely applied to cancer research (ref. 3) and fibrosis research (ref. 4), and to contribute to understanding the wide variety of life phenomena mediated by phosphoisoforms of Smad3.

Antigen : Synthetic peptide of phosphorylated Smad3C (Ser 423/425)

Purification : Purified with antigen peptide

Form : Lyophilized product from 1 % BSA in PBS containing 0.05 % Na₂S₂O₃

How to use : 1.0 mL deionized water will be added to the product (the conc. comes up 50 µg /mL)

Stability : Lyophilized product, 5 years at 2 - 8 °C
: Solution, 2 years at -20 °C

Application : This antibody can be used for immunohistochemistry with formalin fixed paraffin embedded tissues after microwave pretreatment (10 mM citrate buffer, pH 6.0). The optimal dilution is 0.4 µg /mL, however, the concentration should be optimized by each laboratory.

: This antibody can be used for immunofluorescence in formalin fixed cells. The optimal dilution is 0.5 µg /mL.

: This antibody can be used for western blotting in 0.4 µg /mL.
(after immuno-precipitation by anti-Smad3 antibody)

: This antibody can be used for immuno-precipitation in 0.5 µg /test.

Specificity : Reacts with phosphorylated Smad3C (Ser 423/425) of human, rat and mouse. Anti-pSmad3C Ab cross-reacted with C-terminally phosphorylated Smad2: to block binding of anti-pSmad3C Ab to phosphorylated domains in Smad2, absorption of anti-pSmad3C Ab with 1µg/mL C-terminally phosphorylated Smad2 peptide (product code 28028) is recommended.

Reference : 1. Chen YG, Wang XF. Finale: the last minutes of Smads. Cell. 2009 Nov 13;139(4):658-60.
2. Wrighton KH, Lin X, Feng XH. Phospho-control of TGF-beta superfamily signaling. Cell Res. 2009 Jan;19(1):8-20.
3. Matsuzaki K. Smad phosphoisoform signaling specificity: the right place at the right time. Carcinogenesis. 2011 Nov;32(11):1578-88.
4. Matsuzaki K. Smad phosphoisoform signals in acute and chronic liver injury: similarities and differences between epithelial and mesenchymal cells. Cell Tissue Res. 2012 Jan;347(1):225-43.

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