IBL Data Sheet

Code No. 10385

Anti-
Smad2L/3L (T220/T179 Phosphorylated) (1A1) Mouse IgG MoAb

Volume : 50 µg

Introduction : Phosphorylation of signal transduction molecules, Smad2 and Smad3, can be an important information for understanding of various biological functions of transforming growth factor (TGF)-β. TGF-β type I receptor and cyclin-dependent kinases phosphorylate both Smad2 and Smad3 at the C-terminals and at linker (middle) regions of them respectively (ref. 1). TGF-β signaling is mediated by Smad phosphoisoforms phophorylated at both the C-terminal and linker regions (ref. 2, 3). This monoclonal antibody against for Smad2L/3L (T220/T179) recognizes the part of phosphorylated threonin (Thr220 of Smad2 and Thr179 of Smad3) located in linker region of Smad2/3 specifically. It can be used for western blotting, immunoprecipitation and immunohistochemistry. It is applicable for enzyme biochemical analysis of TGF-β signaling and makes it possible to visualize the intermolecular reaction of phosphorylated Smad signaling in human tissues and monitor them in real-time. Thus, analysis of TGF-β signaling with this antibody is expected to be widely applied to cancer serearch (ref. 4) and fibrosis research (ref. 5), and to contribute to understanding the wide variety of life phenomina mediated by phosphoisoforms of Smad2/3.

Antigen : Synthetic peptide of phosphorylated Smad2L/3L (T220/T179)

Source : Mouse-Mouse hybridoma (X63 - Ag 8.653 × BALB/c mouse spleen cells)

Clone : 1A1 **Subclass** : IgG_1

Purification : Affinity purified with antigen peptide

Form : Lyophilized product in PBS containing 1 % BSA and 0.05 % NaN_3

How to use : 0.5 mL deionized water will be added to the product, then its concentration comes to 100 µg/mL

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

Application : This antibody can be used for immunohistochemistory with formalin fixed paraffin embedded tissues after microwave pretreatment (10 mM citrate buffer, pH 6.0). The recommended concentration is about 2 µg /mL, however, the concentration should be optimized by each laboratory.
: This antibody can be used for western blotting in about 2 µg /mL.
: This antibody can be used for immuno-precipitation in about 2 µg /test.

Specificity : Reacts with phosphorylated Smad3L and Smad2L (Thr220/Thr179) of human in specific.

Reference :

1. Matsuura I, Denissova NG, Wang G, He D, Long J, Liu F. Cyclin-dependent kinases regulate the antiproliferative function of Smads.Nature. 2004 Jul 8;430(6996):226-31.
2. Matsuzaki K, Kitano C, Murata M, Sekimoto G, Yoshida K, Uemura Y, Seki T, Taketani S, Fujisawa J, Okazaki K. Smad2 and Smad3 phosphorylated at both linker and COOH-terminal regions transmit malignant TGF-beta signal in later stages of human colorectal cancer. Cancer Res. 2009 Jul 1;69(13):5321-30.
3. Matsuzaki K. Smad phosphoisoform signaling specificity: the right place at the right time. Carcinogenesis. 2011 Nov;32(11):1578-88.
4. Matsuzaki K. Smad3 phosphoisoform-mediated signaling during sporadic human colorectal carcinogenesis. Histol Histopathol. 2006 Jun;21(6):645-62.
5. 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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