IBL Data Sheet

Code No. 28017

Anti-Human
TSC1/Hamartin (T1149) Rabbit IgG Affinity Purify

Volume : 100 µg

Introduction : *TSC1* is a tumor-suppressor gene encoding a protein TSC1/Hamartin of about 130 kDa (ref. 1). Loss of its function causes TSC (tuberous sclerosis complex) or angiomyolipoma in human and in an animal model, *TSC1* knockout mouse develops a renal tumor (ref. 2). TSC1/Hamartin, a product of *TSC1*, forms a complex with TSC2/Tuberin (ref. 3), a product of another tumor-suppressor gene *TSC2* in cytoplasm (ref. 4). The complex suppresses mTOR activity and regulates cellular growth and division in a insulin signaling pathway (ref. 5). Under the condition of proliferation stimulus, forming of the complex is inhibited, and as a result, suppression to mTOR comes off and it leads to cellular growth and division.

Antigen : The synthetic peptide of a part of Human TSC1/Hamartin (GQLHIMDYNETHHEHS)

Purification : Purified with antigen peptide

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

How to use : 1.0 mL deionized water will be added to the product (the conc. comes up 100 µg /mL)

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

Application : This antibody can be stained in formalin fixed paraffin embedded tissues by several Immunohistochemical techniques such as Avidin Biotin Complex (ABC) Method. The optimal dilution is 1 - 5 µg/mL, however, the dilution rate should be optimized by each laboratories.
: This antibody can be used for western blotting in concentration of 1 - 5 µg /mL.

Specificity : Cross reacts with mouse

Reference :

1. van Slegtenhorst M, de Hoogt R, Hermans C, Nellist M, Janssen B, Verhoef S, Lindhout D, van den Ouweland A, Halley D, Young J, Burley M, Jeremiah S, Woodward K, Nahmias J, Fox M, Ekong R, Osborne J, Wolfe J, Povey S, Snell RG, Cheadle JP, Jones AC, Tachataki M, Ravine D, Sampson JR, Reeve MP, Richardson P, Wilmer F, Munro C, Hawkins TL, Sepp T, Ali JB, Ward S, Green AJ, Yates JR, Kwiatkowska J, Henske EP, Short MP, Haines JH, Jozwiak S, Kwiatkowski DJ. Identification of the tuberous sclerosis gene TSC1 on chromosome 9q34.Science. 1997 Aug 8;277(5327):805-8.
2. Kobayashi T, Minowa O, Sugitani Y, Takai S, Mitani H, Kobayashi E, Noda T, Hino O. A germ-line Tsc1 mutation causes tumor development and embryonic lethality that are similar, but not identical to, those caused by Tsc2 mutation in mice.Proc Natl Acad Sci U S A. 2001 Jul 17;98(15):8762-7.
3. European Chromosome 16 Tuberous Sclerosis Consortium. Identification and characterization of the tuberous sclerosis gene on chromosome 16. Cell. 1993 Dec 31;75(7):1305-15.
4. Plank TL, Yeung RS, Henske EP. Hamartin, the product of the tuberous sclerosis 1 (*TSC1*) gene, interacts with tuberin and appears to be localized to cytoplasmic vesicles. Cancer Res. 1998 Nov 1;58(21):4766-70.
5. Gao X, Pan D. TSC1 and TSC2 tumor suppressors antagonize insulin signaling in cell growth.Genes Dev. 2001 Jun 1;15(11):1383-92.

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