

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human/Mouse/Rat                                                                       |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human, mouse, and rat TSC1 in direct ELISAs and Western blots.                |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Sheep IgG                                                                  |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                             |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human TSC1<br>Asp156-Thr300<br>Accession # Q92574 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm   |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                          |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                       |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the Technical Information section on our website.

|                                                 |                                                                        |
|-------------------------------------------------|------------------------------------------------------------------------|
| <b>CyTOF-ready</b>                              | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>                             | Optimal dilution of this antibody should be experimentally determined. |
| <b>Intracellular Staining by Flow Cytometry</b> | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

TSC1 (Tuberous sclerosis 1), or hamartin, is a tumor suppressor which interacts with tumor suppressor TSC2 (tuberin) to form a cytoplasmic heterodimer. Mutations in either hamartin or tuberin are responsible for tuberous sclerosis (TSC), an autosomal dominant disease characterized by renal dysfunction, seizures, developmental delays, benign hamartomas and low grade neoplasms predominantly affecting the CNS, kidney, lung, skin, and heart. The TSC1/TSC2 complex suppresses cell growth by inhibiting mTOR, with TSC1 acting to inhibit the ubiquitination of TSC2, leading to increased cellular levels of TSC2 and thus enhancing its catalytic activity as a GTPase-activating protein for Rheb. TSC1 and TSC2 are also involved in the G2/M transition of the cell cycle through their interactions with CDK1 and cyclin B1. TSC1 has also been shown to interact with F-actin and ERM (Ezrin-Radixin-Moesin) proteins, implying a role in the modulation of cell adhesion and morphology.

#### PRODUCT SPECIFIC NOTICES

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