

## DESCRIPTION

<b>Species Reactivity</b>	Human/Mouse
<b>Specificity</b>	Detects human and mouse TSC2 in Western blots.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 614204
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human TSC2 Val550-Leu850 Accession # P49815
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

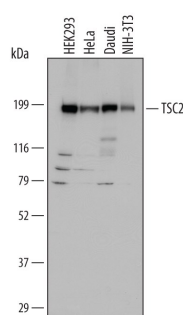
## APPLICATIONS

**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.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 µg/mL	See Below
<b>Immunocytochemistry</b>	3-25 µg/mL	See Below
<b>Immunohistochemistry</b>	8-25 µg/mL	See Below
<b>Knockout Validated</b>	TSC2 is specifically detected in the parental HAP1 cell line, but is not detectable in knockout HAP1 cell line.	

## DATA

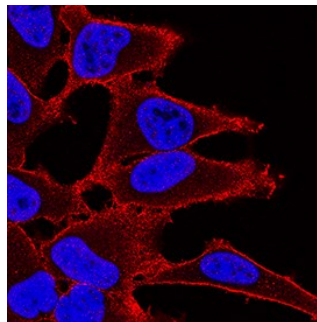
### Western Blot



#### Detection of Human and Mouse TSC2 by Western Blot.

Western blot shows lysates of HEK293 human embryonic kidney cell line, HeLa human cervical epithelial carcinoma cell line, Daudi human Burkitt's lymphoma cell line, and NIH-3T3 mouse embryonic fibroblast cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human/Mouse TSC2 Monoclonal Antibody (Catalog # MAB40401) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for TSC2 at approximately 200 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

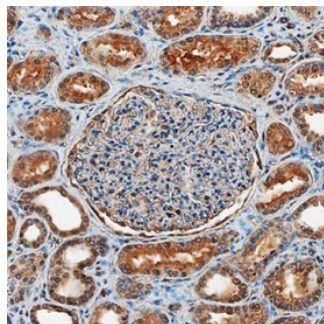
### Immunocytochemistry



#### TSC2 in HeLa Human Cell Line.

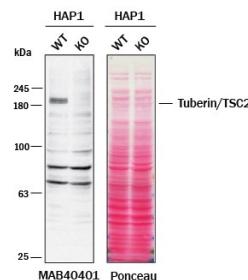
TSC2 was detected in immersion fixed HeLa human cervical epithelial carcinoma cell line using Mouse Anti-Human/Mouse TSC2 Monoclonal Antibody (Catalog # MAB40401) at 3 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to plasma membrane. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

## Immunohistochemistry



**TSC2 in Human Kidney.** TSC2 was detected in immersion fixed paraffin-embedded sections of human kidney using Mouse Anti-Human/Mouse TSC2 Monoclonal Antibody (Catalog # MAB40401) at 15 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to epithelial cell cytoplasm in convoluted tubules. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## Knockout Validated



**Western Blot Shows Human TSC2 Specificity Using Knockout Cell Line.** Western blot shows lysates of HAP1 human near-haploid cell line and TSC2 knockout HAP1 cell line (KO). Nitrocellulose membrane was probed with 1 µg/mL of Mouse Anti-Human/Mouse TSC2 Monoclonal Antibody (Catalog # MAB40401) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody. A specific band was detected for TSC2 at approximately 190 kDa (as indicated) in the parental HAP1 cell line, but is not detectable in knockout HAP1 cell line. The Ponceau stained transfer of the blot is shown. This experiment was conducted under reducing conditions. Image, protocol, and testing courtesy of YCharOS Inc. See ycharos.com for additional details.

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 mg/mL.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

TSC2, also called tuberin, complexes with TSC1 (hamartin) to inhibit cell proliferation by antagonizing mTOR/p70S6K signaling. Its location either in the cytoplasm or the nucleus is regulated by phosphorylation and the cell cycle. Numerous point mutations are associated with development of tumors (hamartomas) in kidney, heart, skin and brain. Human TSC2 shares 91% amino acid (aa) identity with mouse TSC2 over aa 550-850. Splice variants that are missing aa 946 to 988 or 989 may show different tissue distribution than full length TSC2.