For Research Use Only

Phospho-MST1 (Thr183)/MST2 (Thr180) Recombinant antibody

Catalog Number:80093-1-RR 7 Publications

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Basic Information

Catalog Number:
80093-1-RR

Concentration:
500 ug/ml

Source:
Rabbit

Isotype:
IgG

GenBank Accession Number:
BC005231

GeneID (NCBI):
6789

UNIPROT ID:
Q13043

Full Name:
serine/threonine kinase 4

Calculated MW:
56 kDa

Observed MW:
59 kDa

Purification Method:
Protein A purification

CloneNo.:
1P6

Recommended Dilutions:
WB 1:2000-1:10000

Applications

Tested Applications:
WB, FC (Intra), ELISA

Cited Applications:
WB

Species Specificity:
human, mouse

Cited Species:
human, mouse, rat

Positive Controls:

WB : Jurkat cells, HeLa cells, Calyculin A treated NIH/3T3 cells, Calyculin A treated HeLa cells, Staurosporine treated Ramos cells, Staurosporine treated Jurkat cells

Background Information

Mammalian STE20-like serine-threonine kinase MST1, encoded by the STK4 gene, is a multifunctional protein. MST1 and its closest paralogs MST2 (encoded by the STK3 gene), MST3, and MST4 are members of the Class II Germinal Center Family of Protein Kinases . STK3/4 and LATS1/2 (large tumor suppressor 1 and 2) are core kinase components of the Hippo tumor suppressor pathway in mammalians . In the conventional Hippo pathway, the STK3/4 and LATS1/2 signaling cascade phosphorylates and inactivates the transcriptional coactivator YAP1 (yes associated protein 1) and its close paralog WWTR1]. YAP1 and WWTR1 do not have DNA binding domains and they exert their biological outputs, such as cell proliferation and survival, by interacting with the TEAD1-4 transcription factors. Lines of evidence have indicated that dysregulation or loss of STK4/Hippo signaling is linked to developmental disorders and carcinogenesis with poor prognosis. STK4 is a stress-induced kinase and it can be activated in response to cell-death inducers. Autophosphorylation of STK4 at Thr183 (Thr180 in STK3) in the activation loop is a key activation mechanism for STK4/3 because phosphorylation of Thr183/180 causes the cleavage of STK4 by caspases under apoptotic conditions. The caspase-cleavage results in a more active STK4 protein (STK4-N, an amino-terminally truncated STK4), which localizes into the nucleus and induces apoptosis through histone modifications and chromatin condensations.

Notable Publications

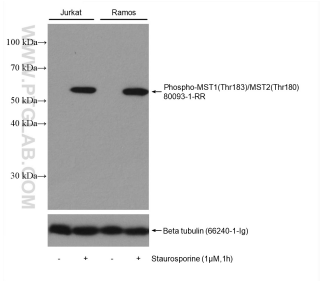
Author	Pubmed ID	Journal	Application
Tianxin Zhao	36493639	J Hazard Mater	WB
Fang-fang Yu	34555722	Ecotoxicol Environ Saf	WB
Shuzhen Zhang	39605072	Cell Biosci	WB

Storage

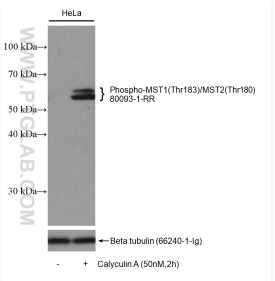
Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
T: 4006900926 E: Proteintech-CN@ptglab.com W: ptgcn.com

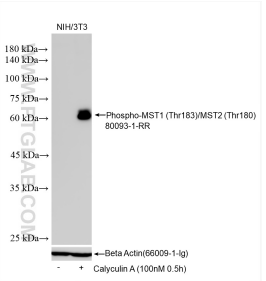
Selected Validation Data



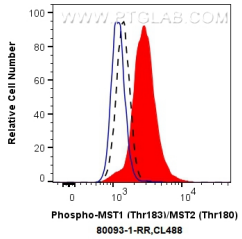
Non-treated Ramos and Jurkat and Staurosporine treated Ramos and Jurkat cells were subjected to SDS PAGE followed by western blot with 80093-1-RR (Phospho-MST1 (Thr183)/MST2 (Thr180) antibody) at dilution of 1:5000 incubated at room temperature for 1.5 hours. The membrane was stripped and re-blotted with Beta Tubulin (66240-1-Ig) antibody as a loading control.



Non-treated HeLa cells and Calyculin A treated HeLa cells were subjected to SDS PAGE followed by western blot with 80093-1-RR (Phospho-MST1 (Thr183)/MST2 (Thr180) antibody) at dilution of 1:5000 incubated at room temperature for 1.5 hours. The membrane was stripped and re-blotted with Beta Tubulin (66240-1-Ig) antibody as a loading control.



Non-treated NIH/3T3 cells and Calyculin A treated NIH/3T3 cells were subjected to SDS PAGE followed by western blot with 80093-1-RR (Phospho-MST1 (Thr183)/MST2 (Thr180) antibody) at dilution of 1:2000 incubated at room temperature for 1.5 hours. The membrane was stripped and re-blotted with Beta Actin (66009-1-Ig) antibody as a loading control.



1X10^6 Calyculin A treated HeLa cells were intracellularly stained with 0.25 ug Anti-Human Phospho-MST1 (Thr183)/MST2 (Thr180) (80093-1-RR, Clone:1P6) and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L) at dilution 1:1000 (red), or 0.25 ug Control Antibody. Cells were fixed with 4% PFA and permeabilized with 90% MeOH.