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KO-Validated Anti-Serine/Threonine Kinase 3 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI2435

Specification

KO-Validated Anti-Serine/Threonine Kinase 3 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	Q13188
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 56 kDa; observed, 56 kDa KDa**
Gene Name	**STK3**
Aliases	**STK3; Serine/Threonine Kinase 3; MST2; KRS1; Serine/Threonine Kinase 3 (Ste20, Yeast Homolog); Mammalian STE20-Like Protein Kinase 2; Serine/Threonine-Protein Kinase Krs-1; Serine/Threonine-Protein Kinase 3; STE20-Like Kinase MST2; EC 2.7.11.1; MST-2; Serine/Threonine Kinase 3 (STE20 Homolog, Yeast); Epididymis Secretory Sperm Binding Protein; Hippo (Drosophila) Homolog; Hippo Homolog; KB-1458E12.1; EC 2.7.11**
Immunogen	**A synthesized peptide derived from human STK3**

KO-Validated Anti-Serine/Threonine Kinase 3 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**6788**

Other Names
Serine/threonine-protein kinase 3, 2.7.11.1, Mammalian STE20-like protein kinase 2, MST-2, STE20-like kinase MST2, Serine/threonine-protein kinase Krs-1, Serine/threonine-protein kinase 3 36kDa subunit, MST2/N, Serine/threonine-protein kinase 3 20kDa subunit, MST2/C, STK3 (HGNC:11406)

KO-Validated Anti-Serine/Threonine Kinase 3 Rabbit Monoclonal Antibody - Protein Information

Name STK3 (HGNC:11406)

Function
Stress-activated, pro-apoptotic kinase which, following caspase-cleavage, enters the nucleus and induces chromatin condensation followed by internucleosomal DNA fragmentation (PubMed:11278283, PubMed:<a

href="http://www.uniprot.org/citations/8566796" target="_blank">8566796, PubMed:8816758). Key component of the Hippo signaling pathway which plays a pivotal role in organ size control and tumor suppression by restricting proliferation and promoting apoptosis. The core of this pathway is composed of a kinase cascade wherein STK3/MST2 and STK4/MST1, in complex with its regulatory protein SAV1, phosphorylates and activates LATS1/2 in complex with its regulatory protein MOB1, which in turn phosphorylates and inactivates YAP1 oncoprotein and WWTR1/TAZ (PubMed:15688006, PubMed:16930133, PubMed:23972470, PubMed:28087714, PubMed:29063833, PubMed:30622739). Phosphorylation of YAP1 by LATS2 inhibits its translocation into the nucleus to regulate cellular genes important for cell proliferation, cell death, and cell migration (PubMed:15688006, PubMed:16930133, PubMed:23972470, PubMed:28087714). STK3/MST2 and STK4/MST1 are required to repress proliferation of mature hepatocytes, to prevent activation of facultative adult liver stem cells (oval cells), and to inhibit tumor formation. Phosphorylates NKX2-1 (By similarity). Phosphorylates NEK2 and plays a role in centrosome disjunction by regulating the localization of NEK2 to centrosome, and its ability to phosphorylate CROCC and CEP250 (PubMed:21076410, PubMed:21723128). In conjunction with SAV1, activates the transcriptional activity of ESR1 through the modulation of its phosphorylation (PubMed:21104395). Positively regulates RAF1 activation via suppression of the inhibitory phosphorylation of RAF1 on 'Ser-259' (PubMed:20212043). Phosphorylates MOBKL1A and RASSF2 (PubMed:19525978). Phosphorylates MOBKL1B on 'Thr- 74'. Acts cooperatively with MOBKL1B to activate STK38 (PubMed:18328708, PubMed:18362890).

Cellular Location
Cytoplasm. Nucleus Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=The caspase-cleaved form cycles between nucleus and cytoplasm (PubMed:11278283, PubMed:19525978) Phosphorylation at Thr-117 leads to inhibition of nuclear translocation (PubMed:19525978).

Tissue Location
Expressed at high levels in adult kidney, skeletal and placenta tissues and at very low levels in adult heart, lung and brain tissues.

KO-Validated Anti-Serine/Threonine Kinase 3 Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence

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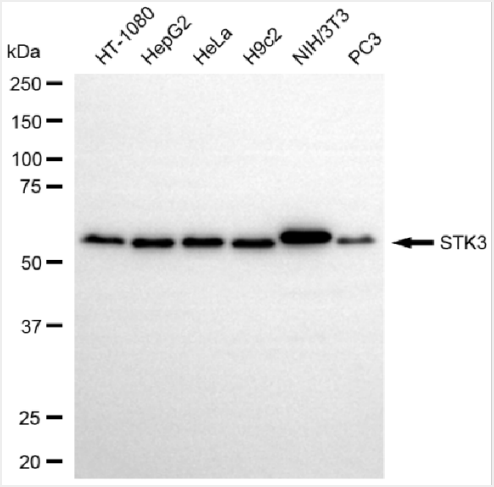
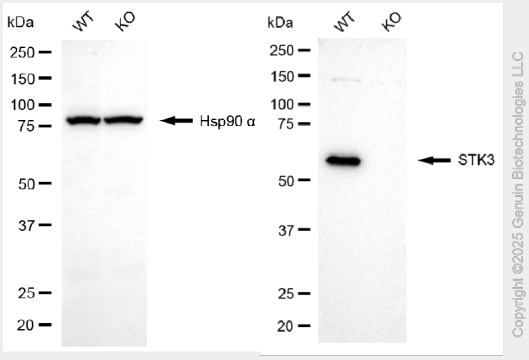
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

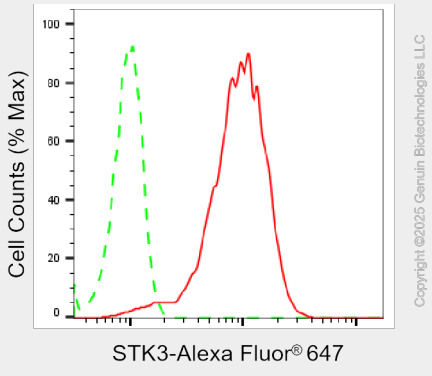
KO-Validated Anti-Serine/Threonine Kinase 3 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-STK3 antibody (Cat#AGI2435). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-STK3 antibody (Cat#AGI2435, 1:5,000) and HRP-conjugated goat anti rabbit secondary antibody respectively.



Western blotting analysis using anti-STK3 antibody (Cat#AGI2435). STK3 expression in wild type (WT) and STK3 knockout (KO) HSHC cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-STK3 antibody (Cat#AGI2435, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of STK3 expression in HepG2 cells using anti-STK3 antibody

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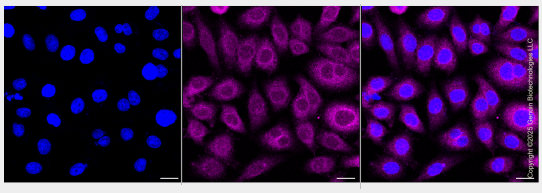
(Cat#AGI2435, 1:2,000). Green, isotype control; red, STK3.



Immunocytochemical staining of HepG2 cells with anti-STK3 antibody (Cat#AGI2435, 1:1,000). Nuclei were stained blue with DAPI; STK3 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar, 20 µm.