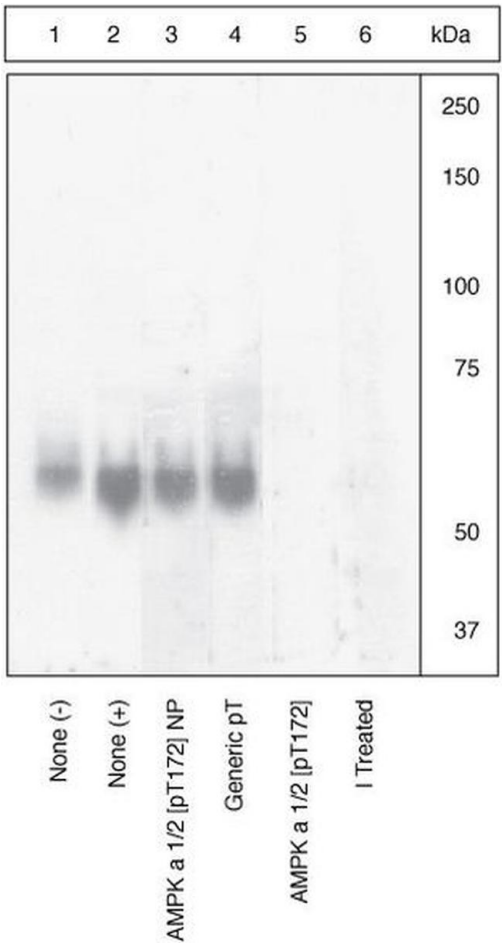
Phospho-AMPK alpha-1,2 (Thr183, Thr172) Polyclonal Antibody

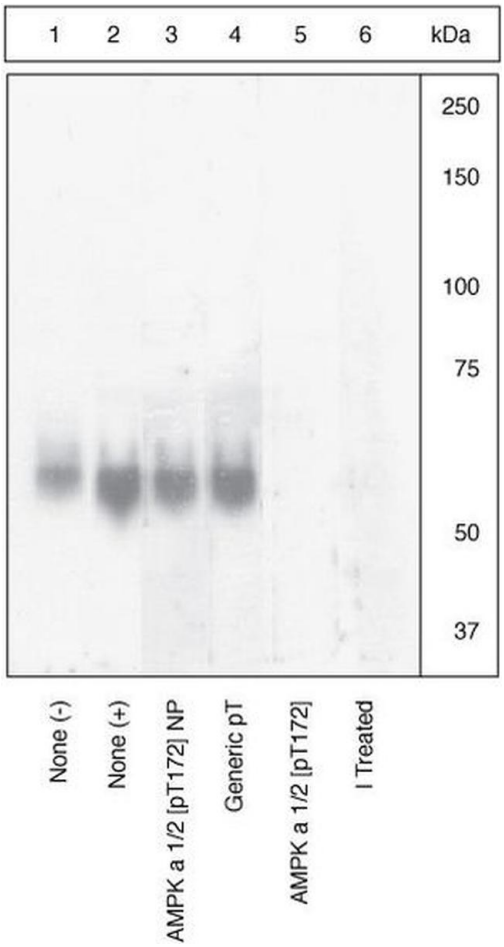
Product Details	
Size	100 µL
Species Reactivity	Human, Mouse
Published Species	Rat, Human
Host/Isotype	Rabbit / IgG
Class	Polyclonal
Type	Antibody
Conjugate	Unconjugated
Immunogen	The antiserum was produced against a chemically synthesized phosphopeptide derived from the region of human AMPK alpha 1 that contains threonine 183 and AMPK alpha 2 that contains threonine 172. The sequence is conserved in human, mouse and rat.
Form	Liquid
Purification	Antigen affinity chromatography
Storage buffer	Dulbecco's PBS, pH 7.3, with 1mg/mL BSA
Contains	0.05% sodium azide
Storage conditions	-20°C
RRID	AB_2533585

Applications	Tested Dilution	Publications
Western Blot (WB)	1:1,000	4 Publications
Immunohistochemistry (Paraffin) (IHC (P))	1:10-1:50	-
Immunocytochemistry (ICC/IF)	1:250	2 Publications
Flow Cytometry (Flow)	-	1 Publication

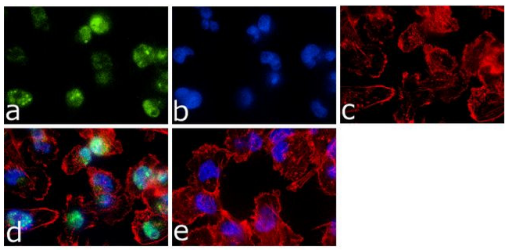
Product Images For Phospho-AMPK alpha-1,2 (Thr183, Thr172) Polyclonal Antibody



Phospho-AMPK alpha-1,2 (Thr183, Thr172) Antibody (44-1150G)
Altered expression of proteins upon cell treatment demonstrates antibody specificity. Western blot analysis of Phospho-AMPK alpha-1,2 (Thr183, Thr172) using Phospho-AMPK alpha-1,2 (Thr183, Thr172) Rabbit Polyclonal Antibody (Product # 44-1150G) shows induction of phosphorylation of AMPK alpha-1,2 (Thr183, Thr172) in HepG2 cell line upon treatment with Metformin. {TM}



Phospho-AMPK alpha-1,2 (Thr183, Thr172) Antibody (44-1150G) in WB
Upregulation, Antibody-Peptide Competition and Phosphatase Stripping. Extracts of HepG2 cells untreated (1) or treated with 12 mM Metformin for 24 hours in serum free media (2-6) were resolved by SDS-PAGE on a 10% Tris-glycine gel and transferred to PVDF. The membrane was left untreated (1-5) or treated with lambda phosphatase (6), blocked with a 3% BSA-TBST buffer for one hour at room temperature, and then incubated with the Phospho-AMPK alpha-1,2 (Thr183, Thr172) antibody (Product # 44-1150G) for two hours at room temperature in 3% BSA-TBST buffer, following prior incubation with: no peptide (1,2), the non-phosphopeptide corresponding to the phosphopeptide immunogen (3), a generic phosphothreonine-containing peptide (4), or the phosphopeptide immunogen (5). After washing, the membrane was incubated with goat F(ab')2 anti-rabbit IgG HRP conjugate (Product # ALI4404) and signals were detected using the Pierce SuperSignal™ method. The data show that only the phosphopeptide corresponding to Phospho-AMPK alpha-1,2 (Thr183, Thr172) completely blocks the signal and that phosphatase stripping eliminates the signal, verifying that the antibody is phosphorylation site-specific. The data also show upregulation of the phospho-signal upon Metformin treatment in this cell system.



Phospho-AMPK alpha-1,2 (Thr183, Thr172) Antibody (44-1150G) in ICC/IF
Immunofluorescence analysis of Phospho-AMPK alpha 1,2 (Thr183, Thr172) was done on 70% confluent log phase MDA-MB-231 cells. The cells were fixed with 4% paraformaldehyde for 15 minutes, permeabilized with 0.25% Triton™ X-100 for 10 minutes, and blocked with 5% BSA for 1 hour at room temperature. The cells were labeled with Phospho-AMPK alpha-1,2 (Thr183, Thr172) Rabbit Polyclonal Antibody (Product # 44-1150G) at 1:250 dilution in 1% BSA and incubated for 3 hours at room temperature and then labeled with Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Secondary Antibody, Alexa Fluor® 488 conjugate (Product # A27034) at a dilution of 1:2000 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI (Product # S36938). F-actin (Panel c: red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d is a merged image showing Nuclear localization. Panel e is a no primary antibody control. The images were captured at 60X magnification.

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7 References

Western Blot (4)

Antioxidants (Basel, Switzerland)

OR2AT4, an Ectopic Olfactory Receptor, Suppresses Oxidative Stress-Induced Senescence in Human Keratinocytes.

"44-1150G was used in Western Blotting to suggest that OR2AT4 may be a novel therapeutic target for anti-aging and anti-senescence in human keratinocytes."

Authors: Kim JS,Lee HL,Jeong JH,Yoon YE,Lee IR,Kim JM,Wu C,Lee SJ

Year
2022

Species
Human

Annals of translational medicine

***ACSL4* contributes to sevoflurane-induced ferroptotic neuronal death in SH-SY5Y cells via the 5' AMP-activated protein kinase/mammalian target of rapamycin pathway.**

"44-1150G was used in Western Blot to show that downregulation of ACSL4 restrained sev-induced ferroptotic cell death via AMPK/mTOR signaling, providing the basis for an approach to alleviate sev-induced postoperative cognitive dysfunction (POCD)."

Authors: Cheng L,Zhu X,Liu Y,Zhu K,Lin K,Li F

Year
2021

Species
Human

View more WB references on thermofisher.com

Immunocytochemistry (2)

JCI insight

Glycocalyx heparan sulfate cleavage promotes endothelial cell angiopoietin-2 expression by impairing shear stress-related AMPK /FoxO1 signaling.

"44-1150G was used in Immunocytochemistry-immunoflourescence to establish a paradigm by which Ang-2 may be upregulated during sepsis."

Authors: Richter RP,Ashtekar AR,Zheng L,Pretorius D,Kaushlendra T,Sanderson RD,Gaggar A,Richter JR

Year
2022

Species
Human

Antioxidants (Basel, Switzerland)

AKR1B1-Induced Epithelial-Mesenchymal Transition Mediated by RAGE-Oxidative Stress in Diabetic Cataract Lens.

"44-1150G was used in Immunocytochemistry-Immunofluorescence to show that epithelial-mesenchymal transition in the DM cataract occurs through AKR1B1-enhanced AGE and RAGE-oxidative stress generation in lens epithelial cells from DM (+) cataract patients."

Authors: Wu TT,Chen YY,Chang HY,Kung YH,Tseng CJ,Cheng PW

Year
2020

Species
Human

More applications with references on thermofisher.com

Flow (1)