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Anti-WNK2 Antibody

Catalog # AP51689

Product Information

Application	WB, IF/IC
Primary Accession	Q9Y3S1
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	242676

Additional Information

Gene ID	65268
Other Names	KIAA1760; PRKWNK2; SDCCAG43; Serine/threonine-protein kinase WNK2; Antigen NY-CO-43; Protein kinase lysine-deficient 2; Protein kinase with no lysine 2; Serologically defined colon cancer antigen 43
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human WNK2. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	WNK2 {ECO:0000303|PubMed:11571656, ECO:0000312|HGNC:HGNC:14542}
Function	Serine/threonine-protein kinase component of the WNK2- SPAK/OSR1 kinase cascade, which plays an important role in the regulation of electrolyte homeostasis, cell signaling, survival, and proliferation (PubMed:17667937, PubMed:18593598, PubMed:21733846). The WNK2-SPAK/OSR1 kinase cascade is composed of WNK2, which mediates phosphorylation and activation of downstream kinases OXSR1/OSR1 and STK39/SPAK (By similarity). Following activation, OXSR1/OSR1 and STK39/SPAK catalyze phosphorylation of ion cotransporters, regulating their activity (By similarity). Acts as an activator and inhibitor of sodium-coupled chloride cotransporters and potassium-coupled chloride cotransporters respectively (PubMed:21733846). Activates SLC12A2, SCNN1A, SCNN1B, SCNN1D and SGK1 and inhibits SLC12A5 (PubMed:21733846). Negatively regulates the EGF-induced activation of the ERK/MAPK-pathway and the downstream cell cycle progression (PubMed:17667937, PubMed:18593598). Affects

MAPK3/MAPK1 activity by modulating the activity of MAP2K1 and this modulation depends on phosphorylation of MAP2K1 by PAK1 (PubMed:17667937, PubMed:18593598). WNK2 acts by interfering with the activity of PAK1 by controlling the balance of the activity of upstream regulators of PAK1 activity, RHOA and RAC1, which display reciprocal activity (PubMed:17667937, PubMed:18593598).

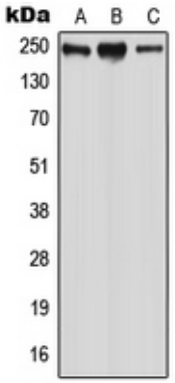
Cellular Location Cytoplasm. Cell membrane

Tissue Location Expressed in various cancer cell lines (at protein level). Predominantly expressed in heart, brain, skeletal muscle and colon.

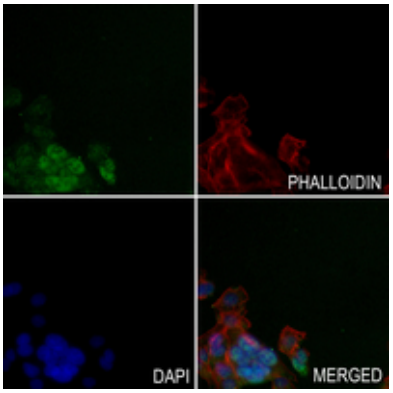
References

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Jordan P.,et al.Submitted (JAN-2005) to the EMBL/GenBank/DDBJ databases.
Humphray S.J.,et al.Nature 429:369-374(2004).
Ito M.,et al.Cancer Res. 61:2038-2046(2001).
Nagase T.,et al.DNA Res. 7:347-355(2000).

Images



Western blot analysis of WNK2 expression in HeLa (A), MCF7 (B), SP2/0 (C) whole cell lysates. (Predicted band size: 242 kD; Observed band size: 242 kD)



Immunofluorescent analysis of WNK2 staining in HEPG2 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

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