

WNK2 Antibody

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP51689

Product Information

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

Additional Information

Gene ID	65268
Other Names	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, WNK2, KIAA1760, PRKWINK2, SDCCAG43
Dilution	WB~~1:1000
Format	0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%
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	<p>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</p>

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.

Background

Serine/threonine kinase which plays an important role in the regulation of electrolyte homeostasis, cell signaling, survival, and proliferation. Acts as an activator and inhibitor of sodium-coupled chloride cotransporters and potassium-coupled chloride cotransporters respectively. Activates SLC12A2, SCNN1A, SCNN1B, SCNN1D and SGK1 and inhibits SLC12A5. Negatively regulates the EGF-induced activation of the ERK/MAPK-pathway and the downstream cell cycle progression. Affects MAPK3/MAPK1 activity by modulating the activity of MAP2K1 and this modulation depends on phosphorylation of MAP2K1 by PAK1. 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.

References

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Humphray S.J.,et al.Nature 429:369-374(2004).
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Nagase T.,et al.DNA Res. 7:347-355(2000).

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