ARG66398
anti-SGK1 phospho (Ser422) antibody

Package: 100 µg
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes SGK1 phospho (Ser422)
Tested Reactivity	Hu, Ms, Rat
Tested Application	WB
Specificity	The antibody detects endogenous levels of SGK1 protein only when phosphorylated at Ser422.
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	SGK1
Species	Human
Immunogen	Phospho specific peptide around Ser422 of Human SGK1.
Conjugation	Un-conjugated
Alternate Names	EC 2.7.11.1; SGK; Serine/threonine-protein kinase Sgk1; Serum/glucocorticoid-regulated kinase 1

Application Instructions

Application table

Application	Dilution
WB	1:500 - 1:2000

Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Observed Size	54 kDa

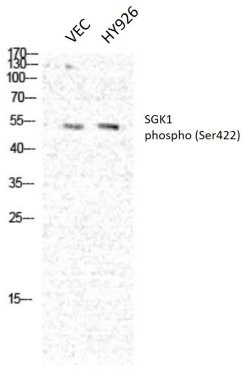
Properties

Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS, 0.02% Sodium azide, 50% Glycerol and 0.5% BSA.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol and 0.5% BSA
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	SGK1
Gene Full Name	serum/glucocorticoid regulated kinase 1
Background	This gene encodes a serine/threonine protein kinase that plays an important role in cellular stress response. This kinase activates certain potassium, sodium, and chloride channels, suggesting an involvement in the regulation of processes such as cell survival, neuronal excitability, and renal sodium excretion. High levels of expression of this gene may contribute to conditions such as hypertension and diabetic nephropathy. Several alternatively spliced transcript variants encoding different isoforms have been noted for this gene. [provided by RefSeq, Jan 2009]
Function	Serine/threonine-protein kinase which is involved in the regulation of a wide variety of ion channels, membrane transporters, cellular enzymes, transcription factors, neuronal excitability, cell growth, proliferation, survival, migration and apoptosis. Plays an important role in cellular stress response. Contributes to regulation of renal Na(+) retention, renal K(+) elimination, salt appetite, gastric acid secretion, intestinal Na(+)/H(+) exchange and nutrient transport, insulin-dependent salt sensitivity of blood pressure, salt sensitivity of peripheral glucose uptake, cardiac repolarization and memory consolidation. Up-regulates Na(+) channels: SCNN1A/ENAC, SCN5A and ASIC1/ACCN2, K(+) channels: KCNJ1/ROMK1, KCNA1-5, KCNQ1-5 and KCNE1, epithelial Ca(2+) channels: TRPV5 and TRPV6, chloride channels: BSND, CLCN2 and CFTR, glutamate transporters: SLC1A3/EAAT1, SLC1A2 /EAAT2, SLC1A1/EAAT3, SLC1A6/EAAT4 and SLC1A7/EAAT5, amino acid transporters: SLC1A5/ASCT2, SLC38A1/SN1 and SLC6A19, creatine transporter: SLC6A8, Na(+)/dicarboxylate cotransporter: SLC13A2/NADC1, Na(+)-dependent phosphate cotransporter: SLC34A2/NAPI-2B, glutamate receptor: GRIK2/GLUR6. Up-regulates carriers: SLC9A3/NHE3, SLC12A1/NKCC2, SLC12A3/NCC, SLC5A3/SMIT, SLC2A1/GLUT1, SLC5A1/SGLT1 and SLC15A2/PEPT2. Regulates enzymes: GSK3A/B, PMM2 and Na(+)/K(+) ATPase, and transcription factors: CTNNB1 and nuclear factor NF-kappa-B. Stimulates sodium transport into epithelial cells by enhancing the stability and expression of SCNN1A/ENAC. This is achieved by phosphorylating the NEDD4L ubiquitin E3 ligase, promoting its interaction with 14-3-3 proteins, thereby preventing it from binding to SCNN1A/ENAC and targeting it for degradation. Regulates store-operated Ca(+2) entry (SOCE) by stimulating ORAI1 and STIM1. Regulates KCNJ1/ROMK1 directly via its phosphorylation or indirectly via increased interaction with SLC9A3R2/NHERF2. Phosphorylates MDM2 and activates MDM2-dependent ubiquitination of p53/TP53. Phosphorylates MAPT/TAU and mediates microtubule depolymerization and neurite formation in hippocampal neurons. Phosphorylates SLC2A4/GLUT4 and up-regulates its activity. Phosphorylates APBB1/FE65 and promotes its localization to the nucleus. Phosphorylates MAPK1/ERK2 and activates it by enhancing its interaction with MAP2K1/MEK1 and MAP2K2/MEK2. Phosphorylates FBXW7 and plays an inhibitory role in the NOTCH1 signaling. Phosphorylates FOXO1 resulting in its relocalization from the nucleus to the cytoplasm. Phosphorylates FOXO3, promoting its exit from the nucleus and interference with FOXO3-dependent transcription. Phosphorylates BRAF and MAP3K3/MEKK3 and inhibits their activity. Phosphorylates SLC9A3/NHE3 in response to dexamethasone, resulting in its activation and increased localization at the cell membrane. Phosphorylates CREB1. Necessary for vascular remodeling during angiogenesis. Sustained high levels and activity may contribute to conditions such as hypertension and diabetic nephropathy. Isoform 2 exhibited a greater effect on cell plasma membrane expression of SCNN1A/ENAC and Na(+) transport than isoform 1. [UniProt]
Calculated Mw	49 kDa
PTM	Regulated by phosphorylation. Activated by phosphorylation on Ser-422 by mTORC2, transforming it into a substrate for PDPK1 which phosphorylates it on Thr-256. Phosphorylation on Ser-397 and Ser-401 are also essential for its activity. Phosphorylation on Ser-78 by MAPK7 is required for growth factor-induced cell cycle progression. Ubiquitinated by NEDD4L; which promotes proteasomal degradation. Ubiquitinated by SYVN1 at the endoplasmic reticulum; which promotes rapid proteasomal degradation and maintains a high turnover rate in resting cells. Isoform 2 shows enhanced stability. [UniProt]

Images



ARG66398 anti-SGK1 phospho (Ser422) antibody WB image

Western blot: VEC and HY926 cell lysates stained with ARG66398 anti-SGK1 phospho (Ser422) antibody at 1:500 dilution.