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Anti-SPHK2 Antibody

Rabbit polyclonal antibody to SPHK2
Catalog # AP60703

Product Information

Application	WB, IHC
Primary Accession	Q9NRA0
Other Accession	Q9JIA7
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	69217

Additional Information

Gene ID	56848
Other Names	Sphingosine kinase 2; SK 2; SPK 2
Target/Specificity	Recognizes endogenous levels of SPHK2 protein.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

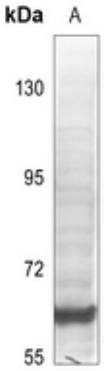
Name	SPHK2 (HGNC:18859)
Synonyms	SK2
Function	Catalyzes the phosphorylation of sphingosine to form sphingosine-1-phosphate (SPP), a lipid mediator with both intra- and extracellular functions. Also acts on D-erythro-dihydrosphingosine, D-erythro-sphingosine and L-threo-dihydrosphingosine. Binds phosphoinositides (PubMed:12954646, PubMed:19168031). In contrast to prosurvival SPHK1, has a positive effect on intracellular ceramide levels, inhibits cells growth and enhances apoptosis (PubMed:16118219). In mitochondria, is important for cytochrome-c oxidase assembly and mitochondrial respiration. The SPP produced in mitochondria binds PHB2 and modulates the regulation via PHB2 of complex IV assembly and respiration (PubMed:20959514). In nucleus, plays a role in epigenetic regulation of gene expression. Interacts with HDAC1 and HDAC2 and, through SPP production,

	inhibits their enzymatic activity, preventing the removal of acetyl groups from lysine residues with histones. Up- regulates acetylation of histone H3-K9, histone H4-K5 and histone H2B- K12 (PubMed:19729656). In nucleus, may have an inhibitory effect on DNA synthesis and cell cycle (PubMed:12954646, PubMed:16103110). In mast cells, is the main regulator of SPP production which mediates calcium influx, NF-kappa-B activation, cytokine production, such as TNF and IL6, and degranulation of mast cells (By similarity). In dopaminergic neurons, is involved in promoting mitochondrial functions regulating ATP and ROS levels (By similarity). Also involved in the regulation of glucose and lipid metabolism (By similarity).
Cellular Location	Cytoplasm. Nucleus. Endoplasmic reticulum {ECO:0000250|UniProtKB:Q9JIA7}. Mitochondrion inner membrane {ECO:0000250|UniProtKB:Q9JIA7}. Note=In nucleus, located in nucleosomes where it associates with core histone proteins such as histone 3 (PubMed:19729656). In brains of patients with Alzheimer's disease, may be preferentially localized in the nucleus. Cytosolic expression decrease correlates with the density of amyloid deposits (PubMed:29615132). In apoptotic cells, colocalizes with CASP1 in cell membrane where is cleaved and released from cells in an active form (PubMed:20197547).
Tissue Location	Mainly expressed in adult kidney, liver, and brain (PubMed:10751414). Expressed in cerebral cortex and hippocampus (at protein level) (PubMed:29615132). Isoform 1 is the predominant form expressed in most tissues (PubMed:16103110)

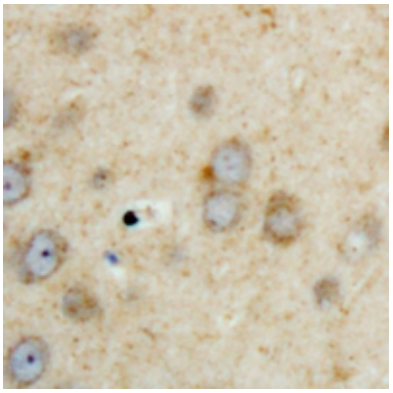
Background

KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human SPHK2. The exact sequence is proprietary.

Images



Western blot analysis of SPHK2 expression in CT26 (A) whole cell lysates.



Immunohistochemical analysis of SPHK2 staining in human brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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