PCK1 (Phospho-Ser90) Antibody

Catalog No: #58006

Description



Orders: order@signalwayantibody.com Support: tech@signalwayantibody.com

Product Name	PCK1 (Phospho-Ser90) Antibody
Host Species	Rabbit
Clonality	Polyclonal
Isotype	lgG
Purification	The antibody was affinity-purified from rabbitantiserum by affinity-chromatography using epitope-specific
	phosphopeptide. The antibody againstnon-phosphopeptidewas removed by chromatographyusing
	non-phosphopeptidecorresponding tothephosphorylationsite.
Applications	WB,IHC
Species Reactivity	Hu
Specificity	PCK1(Phospho-Ser90) antibody detectsendogenous levels of PCK1 onlywhen phosphorylatedat serine90.
Immunogen Description	The antiserum was produced against synthesized phosphopeptide derived from Human PCK1 around the
	phosphorylation site of serine 90.
Accession No.	Swiss-Prot#:P35558NCBI Gene ID:5105
Calculated MW	70kDa
Formulation	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl,0.02% sodium azide.
Storage	Store at -20°1 year

Application Details

WB dilution: 1:500-1:1000

IHC dilution: 1:50-100

Background

Phosphoenolpyruvate carboxykinase (PCK) is the rate-limiting enzyme of gluconeogenesis in the liver and kidney and converts oxaloacetate and GTP into phosphoenolpyruvate (PEP) and CO2 by adding a phosphate to pyruvate with concomitant aldol cleavage of CO2 from oxaloacetate 1,2. In humans, cytosolic PCK1 shares 63.4% sequence identity with PCK2, which is located in the mitochondria 3. Aberrant PCK expression occurs in many cancers. For instance, PCK1 is overexpressed in melanoma and colorectal cancer, and PCK2 is highly expressed in breast, colon and lung cancer cells4-8. In a recent study, it is reported that AKT in tumor cells phosphorylates cytosolic phosphoenolpyruvate carboxykinase 1 (PCK1) at S909. Phosphorylated PCK1 translocates to the ER, where PCK1 uses GTP as a phosphate donor to phosphorylate Insig1 S207 and Insig2 S151. This phosphorylation reduces the binding of sterol to Insig1/2 and disrupts Insig-SCAP interaction, leading to SCAP/SREBP1 translocation to the Golgi apparatus and subsequent SREBP1 activation and downstream gene transcription for lipogenesis, tumor cell proliferation, and tumorigenesis in mice9.

Published Papers

el at., Prognostic Impact of PCK1 Protein Kinase Activity-Dependent Nuclear SREBP1 Activation in Non-Small-Cell Lung Carcinoma. In Front Oncol on 2021 Mar 26 by Fei Shao, Xueli Bian, et al.. PMID:33842305, , (2021) PMID:33842305 Note: This product is for in vitro research use only and is not intended for use in humans or animals.