

ACSS2(Phospho-Ser659) Antibody

Catalog No: #58003



Package Size: #58003-1 50ul #58003-2 100ul

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

Description

Product Name	ACSS2(Phospho-Ser659) Antibody
Host Species	Rabbit
Clonality	Polyclonal
Isotype	IgG
Applications	WB
Species Reactivity	Human;Mouse
Immunogen Description	The antiserum was produced against synthesized phosphopeptide derived from Human ACSS2 around the phosphorylation site of serine 659.
Conjugates	Unconjugated
Calculated MW	78kDa
Storage	Store at -20°C/1 year

Application Details

WB dilution: 1:500-1:2000

Background

Overcoming metabolic stress is a critical step in tumor growth. Acetyl coenzyme A (acetyl-CoA) generated from glucose and acetate uptake is important for his-tone acetylation and gene expression. However, how acetyl-CoA is produced under nutritional stress is un-clear. We demonstrate here that glucose deprivation results in AMP-activated protein kinase (AMPK)-medi-ated acetyl-CoA synthetase 2 (ACSS2) phosphoryla-tion at S659, which exposed the nuclear localization signal of ACSS2 for importin α5 binding and nuclear translocation. In the nucleus, ACSS2 binds to tran-scription factor EB and translocates to lysosomal and autophagy gene promoter regions, where ACSS2 incorporates acetate generated from histone acetylation turnover to locally produce acetyl-CoA for histone H3 acetylation in these regions and pro-mote lysosomal biogenesis, autophagy, cell survival, and brain tumorigenesis. In addition, ACSS2 S659 phosphorylation positively correlates with AMPK ac-tivity in glioma specimens and grades of glioma malignancy. These results underscore the significance of nuclear ACSS2-mediated histone acetylation in main-taining cell homeostasis and tumor development.

Published Papers

el at., Targeting ACSS2 activity suspends the formation ofchemoresistance through suppressed histone H3acetylation in human breast cancer, , (2024)
[PMID:](#)

Note: This product is for in vitro research use only and is not intended for use in humans or animals.