Data Sheet (Cat.No.TMAC-00074)

Anti-Phospho-ACSS2 (Ser659) Polyclonal Antibody

Product Details

Ig Type:	IgG
Reactivity:	Human,Mouse
Conjugation:	Unconjugated
Molecular Weight:	Theoretical: 78 kDa.

Applications

Application:	WB
Recommended	WB: 1:500-2000

Properties

Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	A synthesized phosphopeptide: human ACSS2 around the phosphorylation site of serine 659
Antigen Species:	human
Synonyms:	p-ACSS2 (Ser659);p-ACSS2 (S659);ACSS2 (p-S659);ACSS2 (p-Ser659)

Research 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 a5 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 malig-nancy. These results underscore the significance of nuclear ACSS2-mediated histone acetylation in main-taining cell homeostasis and tumor development.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481