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SIK2 Antibody

Catalog # ASC11321

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q9H0K1
Other Accession	EAW67148, 38569460
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	103915
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SIK2 antibody can be used for detection of SIK2 by Western blot at 1 □g/mL.

Additional Information

Gene ID	23235
Other Names	Serine/threonine-protein kinase SIK2, 2.7.11.1, Qin-induced kinase, Salt-inducible kinase 2, SIK-2, Serine/threonine-protein kinase SNF1-like kinase 2, SIK2
Target/Specificity	SIK2; SIK2 antibody is predicted to not cross-react with other SIK protein family members.
Reconstitution & Storage	SIK2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	SIK2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SIK2
Synonyms	KIAA0781 {ECO:0000312|EMBL:BAA34501.3},
Function	Serine/threonine-protein kinase that plays a role in many biological processes such as fatty acid oxidation, autophagy, immune response or glucose metabolism (PubMed:23322770, PubMed:26983400). Phosphorylates 'Ser-794' of IRS1 in insulin-stimulated adipocytes, potentially modulating the efficiency of insulin signal transduction. Inhibits CREB activity by phosphorylating and repressing TORCs, the CREB-specific coactivators (PubMed:15454081). Phosphorylates EP300 and thus inhibits its histone

acetyltransferase activity (PubMed:21084751, PubMed:26983400). In turn, regulates the DNA-binding ability of several transcription factors such as PPARA or MLXIPL (PubMed:21084751, PubMed:26983400). Also plays a role in thymic T-cell development (By similarity).

Cellular Location Cytoplasm. Endoplasmic reticulum membrane

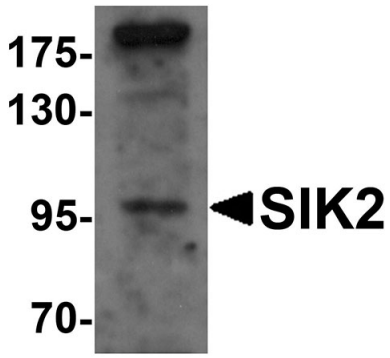
Background

SIK2 Antibody: Salt-inducible kinase 2 (SIK2), like its closely related homolog SIK1, belongs AMPK subfamily of the Ser/Thr protein kinase family and negatively regulates CRE-binding protein (CREB) activity by phosphorylating the CREB-specific coactivator transducer of regulated CREB activity (TORC). SIK2 is thought to be part of a signaling cascade that regulates the expression and activity of the insulin-induced genes PGC-1 alpha and UCP-1 in brown adipocytes, impairment of which has been implicated in obesity and insulin resistance in human and animal models. SIK2 has also been reported as a key regulator for neuronal survival after ischemia, suppressing CREB-mediated gene expression after oxygen-glucose deprivation.

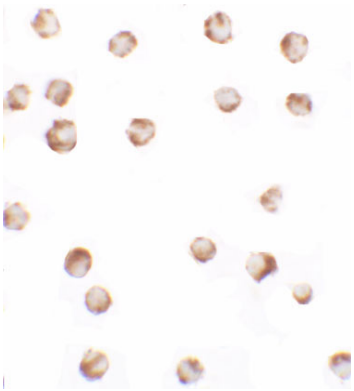
References

Horike N, Takemori H, Katoh Y, et al. Adipose-specific expression, phosphorylation of Ser794 in insulin receptor substrate-1, and activation in diabetic animals of salt-inducible kinase-2. J. Biol. Chem. 2003; 278:18440-7.
Screaton RA, Conkright MD, Katoh Y, et al. The CREB coactivator TORC2 functions as a calcium- and cAMP-sensitive coincidence detector. Cell 2004; 119:61-74.
Muraoka M, Fukushima A, Viengchareun S, et al. Involvement of SIK2/TORC2 signaling cascade in the regulation of insulin-induced PGC-1alpha and UCP-1 gene expression in brown adipocytes. Am. J. Physiol. Endocrinol. Metab. 2009; 296:E1430-9.
Sasaki T, Takemori H, Yagita Y, et al. SIK2 is a key regulator for neuronal survival after ischemia via TORC1-CREB. Neuron 2011; 69:106-19.

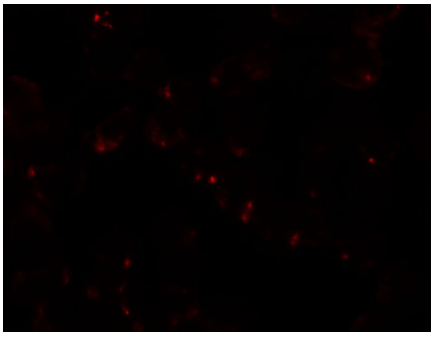
Images



Western blot analysis of SIK2 in SW480 cell lysate with SIK2 antibody at 1 µg/mL.



Immunocytochemistry of SIK2 in SW480 cells with SIK2 antibody at 2.5 µg/ml.



Immunofluorescence of SIK2 in SW480 cells with SIK2 antibody at 5 µg/ml.