

SOAT1 Antibody

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 45	Source/Isotype: Rabbit	UniProt ID: #P35610	Entrez-Gene Id: 6646
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Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

SOAT1 Antibody recognizes endogenous levels of total SOAT1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human SOAT1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

SOAT1 (Sterol O-acyltransferase 1; ACAT1) is an O-acyltransferase that functions in the endoplasmic reticulum (ER) to catalyze the formation of cholesterol esters from free cholesterol and long chain fatty acyl-coenzyme A. The cholesterol esters are incorporated into cytoplasmic lipid droplets, thereby preventing excess free cholesterol from inducing lipid-mediated cell toxicity, including ER stress (1). Research studies have shown that pharmacological inhibition of SOAT1 in tumor cells induced lipid-mediated cell toxicity that suppressed tumor cell growth and promoted tumor cell apoptosis (2,3). Pharmacological SOAT1 inhibition was also shown to stimulate autophagy-mediated proteolysis in microglia, leading to enhanced clearance of amyloid peptide Aβ42 (4,5). Collectively, these findings suggest that SOAT1 inhibition may have therapeutic potential in both cancer and Alzheimer's disease.

Background References

1. Rogers, M.A. et al. (2015) *J Steroid Biochem Mol Biol* 151, 102-7.
2. Sbiera, S. et al. (2015) *Endocrinology* 156, 3895-908.
3. Geng, F. et al. (2016) *Clin Cancer Res* 22, 5337-5348.
4. Shibuya, Y. et al. (2014) *J Neurosci* 34, 14484-501.
5. Shibuya, Y. et al. (2015) *Future Med Chem* 7, 2451-67.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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