

CH25H (1G8): sc-293256

BACKGROUND

CH25H (cholesterol 25-hydroxylase), also known as h25OH, is a 272 amino acid endoplasmic membrane protein that belongs to the sterol desaturase family. CH25H contains clusters of histidine residues essential for catalytic activity and is involved in cholesterol and lipid metabolism. CH25H catalyzes the formation of 25-hydroxycholesterol from cholesterol leading to the repression of cholesterol biosynthetic enzymes. CH25H regulates lipid metabolism by synthesizing a corepressor that blocks sterol regulatory element binding protein (SREBP) processing. CH25H utilizes diiron cofactors to catalyze the hydroxylation of hydrophobic substrates.

REFERENCES

1. Riemenschneider, M., et al. 2004. Association analysis of genes involved in cholesterol metabolism located within the linkage region on chromosome 10 and Alzheimer's disease. *Neurobiol. Aging* 25: 1305-1308.
2. Papassotiropoulos, A., et al. 2005. Cholesterol 25-hydroxylase on chromosome 10q is a susceptibility gene for sporadic Alzheimer's disease. *Neurodegener Dis.* 2: 233-241.
3. Wang, J.H. and Tuohimaa, P. 2006. Regulation of cholesterol 25-hydroxylase expression by vitamin D₃ metabolites in human prostate stromal cells. *Biochem. Biophys. Res. Commun.* 345: 720-725.

CHROMOSOMAL LOCATION

Genetic locus: CH25H (human) mapping to 10q23.31; Ch25h (mouse) mapping to 19 C1.

SOURCE

CH25H (1G8) is a mouse monoclonal antibody raised against amino acids 142-247 of CH25H of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CH25H (1G8) is recommended for detection of CH25H of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CH25H siRNA (h): sc-90679, CH25H siRNA (m): sc-142309, CH25H shRNA Plasmid (h): sc-90679-SH, CH25H shRNA Plasmid (m): sc-142309-SH, CH25H shRNA (h) Lentiviral Particles: sc-90679-V and CH25H shRNA (m) Lentiviral Particles: sc-142309-V.

Molecular Weight (predicted) of CH25H: 32 kDa.

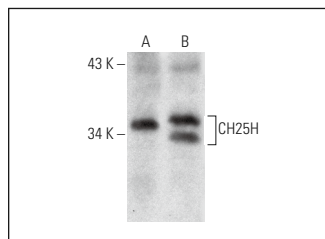
Molecular Weight (observed) of CH25H: 36 kDa.

Positive Controls: c4 whole cell lysate: sc-364186 or RAT2 whole cell lysate: sc-364198.

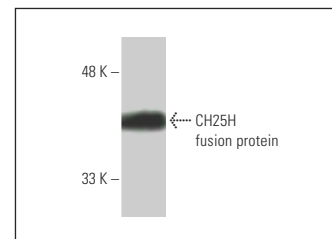
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



CH25H (1G8): sc-293256. Western blot analysis of CH25H expression in c4 (A) and RAT2 (B) whole cell lysates.



CH25H (1G8): sc-293256. Western blot analysis of human recombinant CH25H fusion protein.

SELECT PRODUCT CITATIONS

1. Song, H., et al. 2019. Hepatitis B virus-induced imbalance of inflammatory and antiviral signaling by differential phosphorylation of Stat1 in human monocytes. *J. Immunol.* 202: 2266-2275.
2. Seo, Y.S., et al. 2020. Oxysterol 25-hydroxycholesterol as a metabolic pathophysiological factors of osteoarthritis induces apoptosis in primary rat chondrocytes. *Korean J. Physiol. Pharmacol.* 24: 249-257.
3. Li, X., et al. 2021. MicroRNA-10a-3p improves cartilage degeneration by regulating CH25H-CYP7B1-RORα mediated cholesterol metabolism in knee osteoarthritis rats. *Front. Pharmacol.* 12: 690181.
4. Cao, Q., et al. 2021. 25-hydroxycholesterol mitigates hepatic ischemia reperfusion injury via mediating mitophagy. *Int. Immunopharmacol.* 96: 107643.
5. Guo, W.R., et al. 2021. Metformin alleviates steatohepatitis in diet-induced obese mice in a SIRT1-dependent way. *Front. Pharmacol.* 12: 704112.
6. Wang, Z., et al. 2022. SARS-CoV-2 treatment effects induced by ACE2-expressing microparticles are explained by the oxidized cholesterol-increased endosomal pH of alveolar macrophages. *Cell. Mol. Immunol.* 19: 210-221.
7. Dong, Z., et al. 2022. Hepatic reduction in cholesterol 25-hydroxylase aggravates diet-induced steatosis. *Cell. Mol. Gastroenterol. Hepatol.* 13: 1161-1179.
8. Seo, Y.S., et al. 2023. 25-hydroxycholesterol-induced osteoblast oxiaoptophagy is involved in the pathophysiological process of osteoporosis. *In Vivo* 37: 204-217.
9. Zhang, J., et al. 2024. Cholesterol 25-hydroxylase prevents type 2 diabetes mellitus induced cardiomyopathy by alleviating cardiac lipotoxicity. *Biochim. Biophys. Acta Mol. Basis Dis.* 1870: 167158.

RESEARCH USE

For research use only, not for use in diagnostic procedures.