

Ces1d (B-8): sc-374160

BACKGROUND

CES proteins are carboxylesterases which belong to the type-B carboxylesterase/lipase family and are involved in the detoxification of a wide range of xenobiotics. Assisting the body in the detoxification of a wide range of xenobiotics, CES1 and CES2 are involved in hydrolyzing activation of therapeutic ester and amide pro-drugs, as well as in the detoxification of several narcotic compounds. CES3 localizes to the lumen of the endoplasmic reticulum where it functions to catalyze the H₂O-dependent conversion of carboxylic ester to alcohol and a carboxylate. CES5 is a secreted enzyme found in mammalian kidney and male reproductive fluids. CES6 (carboxylesterase 6) localizes to certain regions of the brain, including the cerebellum, and may participate in detoxification of drugs and xenobiotics in neural tissue and cerebrospinal fluid. Ces1d (carboxylesterase 1D), also known as TGH or Ces3, is a 565 amino acid murine protein belonging to the CES family.

REFERENCES

- Hosokawa, M., et al. 2007. Genomic structure and transcriptional regulation of the rat, mouse, and human carboxylesterase genes. *Drug Metab. Rev.* 39: 1-15.
- Holmes, R.S., et al. 2008. Opossum carboxylesterases: sequences, phylogeny and evidence for CES gene duplication events predating the marsupial-therian common ancestor. *BMC Evol. Biol.* 8: 54.
- Holmes, R.S., et al. 2008. Mammalian carboxylesterase 5: comparative biochemistry and genomics. *Comp. Biochem. Physiol. Part D Genomics Proteomics* 3: 195-204.

CHROMOSOMAL LOCATION

Genetic locus: Ces1d (mouse) mapping to 8 C5.

SOURCE

Ces1d (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 381-411 within an internal region of CES3 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ces1d (B-8) is available conjugated to agarose (sc-374160 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374160 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374160 PE), fluorescein (sc-374160 FITC), Alexa Fluor[®] 488 (sc-374160 AF488), Alexa Fluor[®] 546 (sc-374160 AF546), Alexa Fluor[®] 594 (sc-374160 AF594) or Alexa Fluor[®] 647 (sc-374160 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374160 AF680) or Alexa Fluor[®] 790 (sc-374160 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374160 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

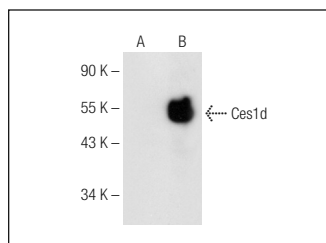
Ces1d (B-8) is recommended for detection of Ces1d of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Ces1d siRNA (m): sc-72875, Ces1d shRNA Plasmid (m): sc-72875-SH and Ces1d shRNA (m) Lentiviral Particles: sc-72875-V.

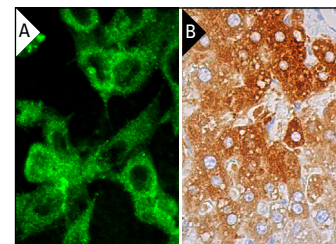
Molecular Weight of Ces1d: 60 kDa.

Positive Controls: mouse liver extract: sc-2256 or Ces1d (m): 293T Lysate: sc-119195.

DATA



Ces1d (B-8): sc-374160. Western blot analysis of Ces1d expression in non-transfected: sc-117752 (A) and mouse Ces1d transfected: sc-119195 (B) 293T whole cell lysates.



Ces1d (B-8): sc-374160. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat liver tissue showing cytoplasmic staining of hepatocytes. Blocked with 0.25X UltraCruz[®] Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz[®] ABC Kit: sc-516216 (B).

SELECT PRODUCT CITATIONS

- Zheng, X., et al. 2020. Selenoprotein F knockout leads to glucose and lipid metabolism disorders in mice. *J. Biol. Inorg. Chem.* 25: 1009-1022.
- Lagrutta, L.C., et al. 2021. Nuclear-lipid-droplet proteome: carboxylesterase as a nuclear lipase involved in lipid-droplet homeostasis. *Heliyon* 7: e06539.
- Lian, J., et al. 2021. Carboxylesterase 1d (Ces1d) does not contribute to cholesteryl ester hydrolysis in the liver. *J. Lipid Res.* 62: 100093.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.