

CEL (E-4): sc-377087

BACKGROUND

Carboxyl ester lipase (CEL), previously named cholesterol esterase or bile salt-stimulated lipase, hydrolyzes cholesteryl esters, phospholipids, lysophospholipids ceramide and tri-, di- and mono-acylglycerols. CEL contains an active site catalytic triad of serine-histidine-aspartate, which is centrally located within the enzyme structure. Production of CEL primarily occurs in the pancreas and lactating mammary gland, but it is also expressed in liver, macrophages and in the vessel wall. CEL has a wide substrate reactivity, and may perform multiple functions in lipid and lipoprotein metabolism and atherosclerosis. CEL also participates in chylomicron assembly and secretion, which is mediated by its ceramide hydrolytic activity.

REFERENCES

- Colwell, N.S., et al. 1993. Molecular cloning and expression of rabbit pancreatic cholesterol esterase. *Biochim. Biophys. Acta* 1172: 175-180.
- Bengtsson, S.H., et al. 2002. Transcriptional regulation of the human carboxyl ester lipase gene in THP-1 monocytes: an E-box required for activation binds upstream stimulatory factors 1 and 2. *Biochem. J.* 365: 481-488.
- Hui, D.Y., et al. 2002. Carboxyl ester lipase: structure-function relationship and physiological role in lipoprotein metabolism and atherosclerosis. *J. Lipid Res.* 43: 2017-2030.
- Higuchi, S., et al. 2002. Characterization of a VNTR polymorphism in the coding region of the CEL gene. *J. Hum. Genet.* 47: 213-215.
- Kirby, R.J., et al. 2002. Bile salt-stimulated carboxyl ester lipase influences lipoprotein assembly and secretion in intestine: a process mediated via ceramide hydrolysis. *J. Biol. Chem.* 277: 4104-4109.

CHROMOSOMAL LOCATION

Genetic locus: CEL (human) mapping to 9q34.2; Cel (mouse) mapping to 2 A3.

SOURCE

CEL (E-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 439-475 within an internal region of CEL of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CEL (E-4) is available conjugated to agarose (sc-377087 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377087 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377087 PE), fluorescein (sc-377087 FITC), Alexa Fluor® 488 (sc-377087 AF488), Alexa Fluor® 546 (sc-377087 AF546), Alexa Fluor® 594 (sc-377087 AF594) or Alexa Fluor® 647 (sc-377087 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377087 AF680) or Alexa Fluor® 790 (sc-377087 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377087 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

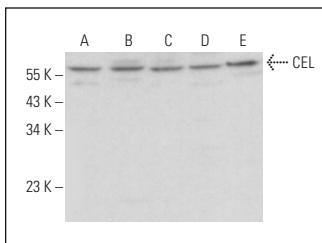
CEL (E-4) is recommended for detection of CEL long isoform of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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). CEL (E-4) is also recommended for detection of CEL long isoform in additional species, including equine and canine.

Suitable for use as control antibody for CEL siRNA (h): sc-44447, CEL siRNA (m): sc-44448, CEL shRNA Plasmid (h): sc-44447-SH, CEL shRNA Plasmid (m): sc-44448-SH, CEL shRNA (h) Lentiviral Particles: sc-44447-V and CEL shRNA (m) Lentiviral Particles: sc-44448-V.

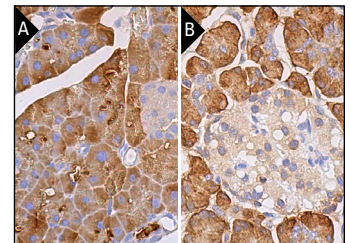
Molecular Weight of CEL: 74 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, PC-12 cell lysate: sc-2250 or BT-20 cell lysate: sc-2223.

DATA



CEL (E-4): sc-377087. Western blot analysis of CEL expression in MIA PaCa-2 (A), BT-20 (B), PC-12 (C), C6 (D) and HL-60 (E) whole cell lysates.



CEL (E-4): sc-377087. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse pancreas (A) and human pancreas (B) tissue showing cytoplasmic staining of exocrine glandular cells.

SELECT PRODUCT CITATIONS

- Tecles, F., et al. 2017. Total esterase measurement in saliva of pigs: validation of an automated assay, characterization and changes in stress and disease conditions. *Res. Vet. Sci.* 114: 170-176.

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.