

CES3 (B-5): sc-518245

BACKGROUND

CES1, CES2 and CES3 are the three major liver carboxylesterases which belong to the type-B carboxylesterase/lipase family and are involved in the detoxification of a wide range of xenobiotics. CES3, known as ES31 in rodents, is a 571 amino acid carboxylesterase that localizes to the lumen of the endoplasmic reticulum where it functions to catalyze the H₂O-dependent conversion of a carboxylic ester to an alcohol and a carboxylate. Via its catalytic activity, CES3, which is expressed in colon, liver and small intestine, plays a role in the hydrolysis of CPT 11, a drug used in cancer therapeutics. CES3 is subject to post-translational N-glycosylation and is encoded by a gene which maps to human chromosome 16.

REFERENCES

1. Aida, K., et al. 1993. Cloning and nucleotide sequence of a novel, male-predominant carboxylesterase in mouse liver. *Biochim. Biophys. Acta* 1174: 72-74.
2. Mori, M., et al. 1999. cDNA cloning, characterization and stable expression of novel human brain carboxylesterase. *FEBS Lett.* 458: 17-22.
3. Sanghani, S.P., et al. 2003. Carboxylesterases expressed in human colon tumor tissue and their role in CPT-11 hydrolysis. *Clin. Cancer Res.* 9: 4983-4991.
4. Sanghani, S.P., et al. 2004. Hydrolysis of irinotecan and its oxidative metabolites, 7-ethyl-10-[4-N-(5-aminopentanoic acid)-1-piperidino] carbonyloxycamptothecin and 7-ethyl-10-[4-(1-piperidino)-1-amino]-carbonyloxycamptothecin, by human carboxylesterases CES1A1, CES2, and a newly expressed carboxylesterase isoenzyme, CES3. *Drug Metab. Dispos.* 32: 505-511.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 605279. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: CES3 (human) mapping to 16q22.1.

SOURCE

CES3 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 70-96 of CES3 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.

CES3 (B-5) is available conjugated to agarose (sc-518245 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518245 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518245 PE), fluorescein (sc-518245 FITC), Alexa Fluor[®] 488 (sc-518245 AF488), Alexa Fluor[®] 546 (sc-518245 AF546), Alexa Fluor[®] 594 (sc-518245 AF594) or Alexa Fluor[®] 647 (sc-518245 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-518245 AF680) or Alexa Fluor[®] 790 (sc-518245 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CES3 (B-5) is recommended for detection of CES3 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CES3 siRNA (h): sc-72874, CES3 shRNA Plasmid (h): sc-72874-SH and CES3 shRNA (h) Lentiviral Particles: sc-72874-V.

Molecular Weight of CES3: 60 kDa.

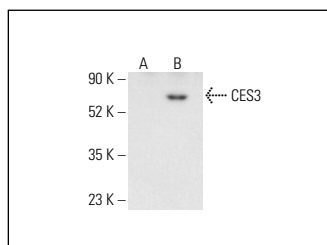
Positive Controls: CES3 (h): 293T Lysate: sc-116538.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



CES3 (B-5): sc-518245. Western blot analysis of CES3 expression in non-transfected: sc-117752 (A) and human CES3 transfected: sc-116538 (B) 293T whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

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.

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