SANTA CRUZ BIOTECHNOLOGY, INC.

# Ces1c (P-13): sc-55919

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 $H_2O$-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. Ces1c (carboxylesterase 1C), also known as Es1 or Es2, is a 549 amino acid murine protein belonging to the CES family.

## REFERENCES


1. Hosokawa, M., et al. 2007. Genomic structure and transcriptional regulation of the rat, mouse, and human carboxylesterase genes. Drug Metab. Rev. 39: 1-15.
2. Holmes, R.S., et al. 2008. Opossum carboxylesterases: sequences, phylogeny and evidence for CES gene duplication events predating the marsupial-eutherian common ancestor. BMC Evol. Biol. 8: 54.
3. Holmes, R.S., et al. 2008. Mammalian carboxylesterase 5: comparative biochemistry and genomics. Comp. Biochem. Physiol. Part D Genomics Proteomics 3: 195-204.
4. Zhang, L., et al. 2009. Baculo-expression and enzymatic characterization of CES7 esterase. Acta Biochim. Biophys. Sin. 41: 731-736.
5. Zhang, L., et al. 2009. Identification and characterization of an epididymis-specific gene, Ces7. Acta Biochim. Biophys. Sin. 41: 809-815.
6. Sanghani, S.P., et al. 2009. Human carboxylesterases: an update on CES1, CES2 and CES3. Protein Pept. Lett. 16: 1207-1214.
7. Gang, L., et al. 2010. Accelerated evolution of CES7, a gene encoding a novel major urinary protein in the cat family. Mol. Biol. Evol. 28: 911-920.


## CHROMOSOMAL LOCATION

Genetic locus: Ces1c (mouse) mapping to 8 C5.

## SOURCE

Ces1c (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Ces1c of rat origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55919 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Ces1c (P-13) is recommended for detection of Ces1c of mouse and rat 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)], 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).

Molecular Weight of Ces1c: 62 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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 or our catalog for detailed protocols and support products.