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CES1/Liver Carboxylesterase 1 Rabbit pAb

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Catalog # AP57027

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P23141
Reactivity	Mouse, Rat
Predicted	Human, Pig, Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	62521
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CES1
Epitope Specificity	151-250/567
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Endoplasmic reticulum lumen.
SIMILARITY	Belongs to the type-B carboxylesterase/lipase family.
Post-translational modifications	Contains sialic acid. Cleavage of the signal sequence can occur at 2 positions, either between Trp-17 and Gly-18 or between Gly-18 and His-19.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the carboxylesterase large family. The family members are responsible for the hydrolysis or transesterification of various xenobiotics, such as cocaine and heroin, and endogenous substrates with ester, thioester, or amide bonds. They may participate in fatty acyl and cholesterol ester metabolism, and may play a role in the blood-brain barrier system. This enzyme is the major liver enzyme and functions in liver drug clearance. Mutations of this gene cause carboxylesterase 1 deficiency. Three transcript variants encoding three different isoforms have been found for this gene. [provided by RefSeq, Jun 2010]

Additional Information

Gene ID	1066
Other Names	Liver carboxylesterase 1, Acyl-coenzyme A:cholesterol acyltransferase, ACAT, Brain carboxylesterase hBr1, Carboxylesterase 1, CE-1, hCE-1, 3.1.1.1, Cholesteryl ester hydrolase, CEH, 3.1.1.13, Cocaine carboxylesterase, Egasyn, HMSE, Methylumbelliferyl-acetate deacetylase 1, 3.1.1.56, Monocyte/macrophage serine esterase, Retinyl ester hydrolase, REH, Serine esterase 1, Triacylglycerol hydrolase, TGH, CES1 (HGNC:1863), CES2, SES1
Target/Specificity	Expressed predominantly in liver with lower levels in heart and lung.

Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

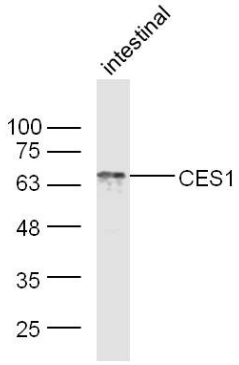
Name	CES1 (HGNC:1863)
Synonyms	CES2, SES1
Function	Involved in the detoxification of xenobiotics and in the activation of ester and amide prodrugs (PubMed:18762277, PubMed:7980644, PubMed:9169443, PubMed:9490062). Hydrolyzes aromatic and aliphatic esters, but has no catalytic activity toward amides or a fatty acyl-CoA ester (PubMed:18762277, PubMed:7980644, PubMed:9169443, PubMed:9490062). Hydrolyzes the methyl ester group of cocaine to form benzoylecgonine (PubMed:7980644). Catalyzes the transesterification of cocaine to form cocaethylene (PubMed:7980644). Displays fatty acid ethyl ester synthase activity, catalyzing the ethyl esterification of oleic acid to ethyloleate (PubMed:7980644). Converts monoacylglycerides to free fatty acids and glycerol. Hydrolyzes of 2-arachidonoylglycerol and prostaglandins (PubMed:21049984). Hydrolyzes cellular cholesteryl esters to free cholesterols and promotes reverse cholesterol transport (RCT) by facilitating both the initial and final steps in the process (PubMed:11015575, PubMed:16024911, PubMed:16971496, PubMed:18762277). First of all, allows free cholesterol efflux from macrophages to extracellular cholesterol acceptors and secondly, releases free cholesterol from lipoprotein-delivered cholesteryl esters in the liver for bile acid synthesis or direct secretion into the bile (PubMed:16971496, PubMed:18599737, PubMed:18762277).
Cellular Location	Endoplasmic reticulum lumen. Cytoplasm Lipid droplet. Note=Moves from cytoplasm to lipid droplets upon lipid loading. Associates with lipid droplets independently of triglycerides (TG) content of the droplets and hydrolyzes cholesteryl esters more efficiently from mixed droplets
Tissue Location	Expressed predominantly in liver with lower levels in heart and lung (PubMed:10562416). Expressed in macrophages (PubMed:11015575, PubMed:18762277, PubMed:21049984)

Background

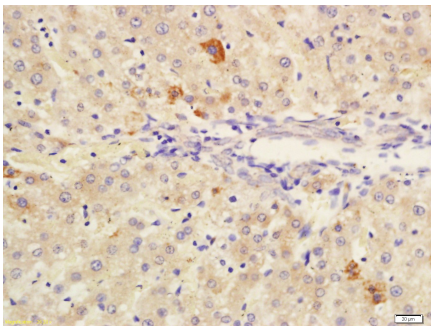
This gene encodes a member of the carboxylesterase large family. The family members are responsible for the hydrolysis or transesterification of various xenobiotics, such as cocaine and heroin, and endogenous substrates with ester, thioester, or amide bonds. They may participate in fatty acyl and cholesterol ester metabolism, and may play a role in the blood-brain barrier system. This enzyme is the major liver enzyme and functions in liver drug clearance. Mutations of this gene cause carboxylesterase 1 deficiency. Three transcript variants encoding three different isoforms have been found for this gene. [provided by RefSeq, Jun 2010]

Images

Protein: intestinal(mouse) lysate at 40ug;
Primary: rabbit Anti-CES1/Liver Carboxylesterase 1



(AP57027) at 1:300;
Secondary: HRP conjugated Goat-Anti-rabbit IgG(AP57027-HRP) at 1: 5000;
Predicted band size: 61 kD
Observed band size: 66 kD



Tissue/cell: rat liver tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-CES1 / Liver Carboxylesterase 1 Polyclonal Antibody, Unconjugated(AP57027) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining