10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CES2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP10661c

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	O00748
Other Accession	NP_003860
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB18998
Calculated MW	61807
Antigen Region	340-369

Additional Information

Gene ID	8824
Other Names	Cocaine esterase, Carboxylesterase 2, CE-2, hCE-2, Methylumbelliferyl-acetate deacetylase 2, CES2, ICE
Target/Specificity	This CES2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 340-369 amino acids from the Central region of human CES2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CES2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CES2 (HGNC:1864)
Synonyms	ICE

Function	Involved in the detoxification of xenobiotics and in the activation of ester and amide prodrugs (PubMed:9169443). Shows high catalytic efficiency for hydrolysis of cocaine, 4-methylumbelliferyl acetate, heroin and 6-monoacetylmorphine (PubMed:9169443). Hydrolyzes aspirin, substrates with large alcohol group and small acyl group and endogenous lipids such as triacylglycerol (PubMed:28677105). Converts monoacylglycerides to free fatty acids and glycerol. Hydrolyzes of 2- arachidonoylglycerol and prostaglandins (PubMed:21049984).
Cellular Location	Endoplasmic reticulum lumen
Tissue Location	Preferentially expressed in intestine with moderate expression in liver. Within the intestine, highest expression is found in small intestine with lower expression in colon and rectum

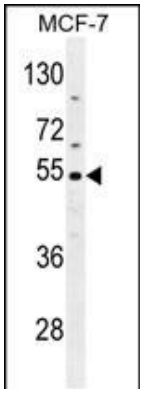
Background

CES2 is 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. The protein encoded by this gene is the major intestinal enzyme and functions in intestine drug clearance.

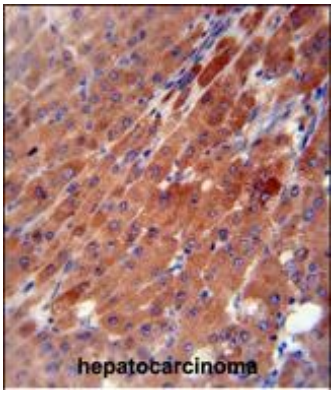
References

Holmes, R.S., et al. Mamm. Genome 21 (9-10), 427-441 (2010) : Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010) Howard, T.D., et al. Environ. Health Perspect. 118(10):1395-1399(2010) Hatfield, M.J., et al. Br. J. Pharmacol. 160(8):1916-1928(2010) Holmes, R.S., et al. Genetica 138(7):695-708(2010)

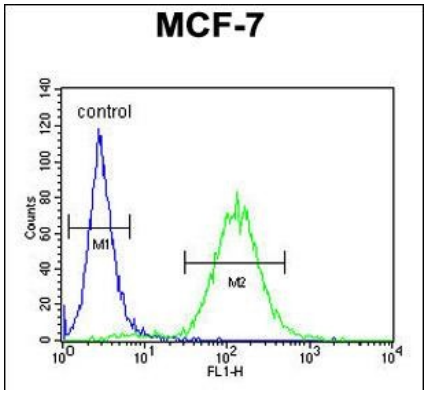
Images



CES2 Antibody (Center) (Cat. #AP10661c) western blot analysis in MCF-7 cell line lysates (35ug/lane).This demonstrates the CES2 antibody detected the CES2 protein (arrow).



CES2 antibody (Center) (Cat. #AP10661c) immunohistochemistry analysis in formalin fixed and paraffin embedded human hepatocarcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the CES2 antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



CES2 Antibody (Center) (Cat. #AP10661c) flow cytometric analysis of MCF-7 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Fluoxetine reduces CES1, CES2, and CYP3A4 expression through decreasing PXR and increasing DEC1 in HepG2 cells.
- Decreased carboxylesterases expression and hydrolytic activity in type 2 diabetic mice through Akt/mTOR/HIF-1α/Stra13 pathway.

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