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CES2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP10661c

Specification

CES2 Antibody (Center) - Product Information

Application	**WB, IHC-P, FC,E**
Primary Accession	O00748
Other Accession	NP_003860
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**340-369**

CES2 Antibody (Center) - 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~~1:2000
IHC-P~~1:50~100
FC~~1:25

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.

CES2 Antibody (Center) - 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

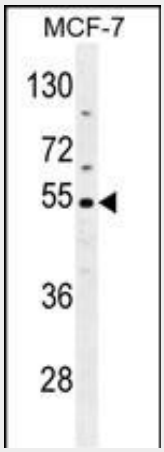
Tissue Location
Preferentially expressed in intestine with moderate expression in liver. Within the intestine, highest expression is found in small intestine with lower expression in colon and rectum

CES2 Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CES2 Antibody (Center) - 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).

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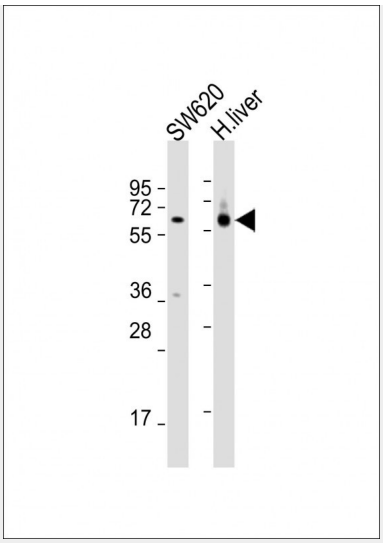
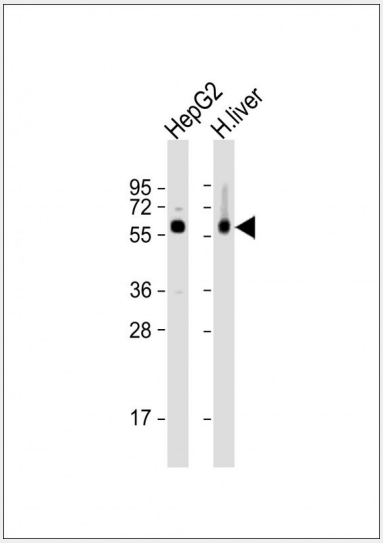
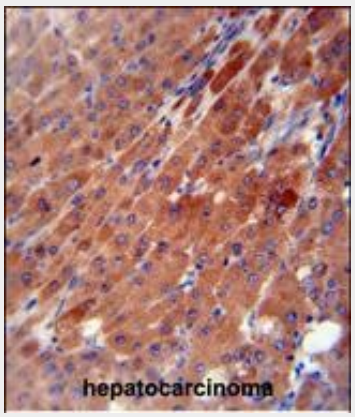


All lanes : Anti-CES2 Antibody (Center) at 1:2000 dilution Lane 1: SW620 whole cell lysates Lane 2: human liver lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 62 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes : Anti-CES2 Antibody (Center) at 1:2000 dilution Lane 1: HepG2 whole cell lysates Lane 2: human liver lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 62 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



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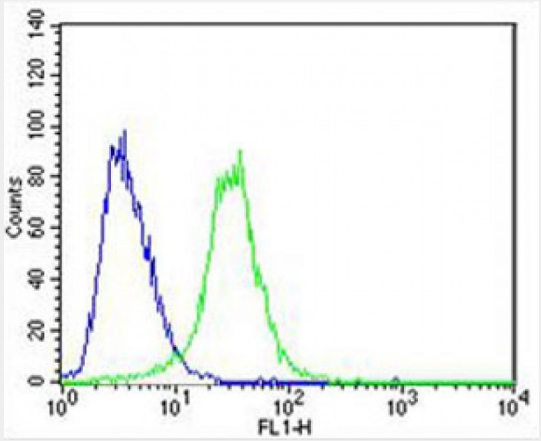
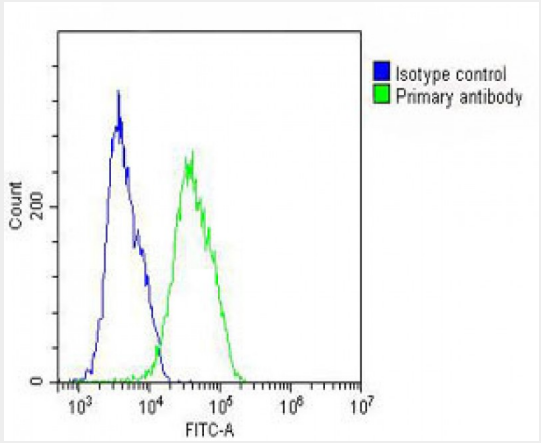
CES2 antibody (Center) (Cat. #AP10661c) immunohistochemistry analysis in formalin fixed and paraffin embedded human hepatocarcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the CES2 antibody (Center) for immunohistochemistry. Clinical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



Overlay histogram showing U-87 MG cells stained with AP10661c (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP10661c, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) (1583138) at 1/400 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.



Overlay histogram showing MCF-7 cells stained with AP10661c (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP10661c, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OH191631) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

CES2 Antibody (Center) - 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.

CES2 Antibody (Center) - 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)

CES2 Antibody (Center) - 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.