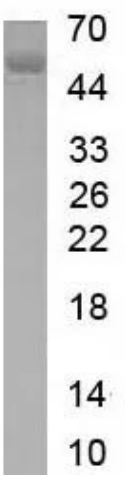
Active Carboxylesterase 2 (CES2)

Catalog#:PHH12950

概述（Summary）

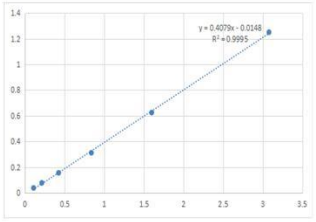
别称（Alternative Names）	CE-2; CES2A1; PCE-2; iCE; Intestine,Liver; Methylumbelliferyl-acetate deacetylase 2; Cocaine esterase
纯度（Purity）	Greater than 95% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Gln27-Leu559】
Accession #	O00748
表达宿主（Host）	293F
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	60.6 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Involved in the detoxification of xenobiotics and in the activation of ester and amide prodrugs. Shows high catalytic efficiency for hydrolysis of cocaine, 4-methylumbelliferyl acetate, heroin and 6-monoacetylmorphine. Hydrolyzes aspirin, substrates with large alcohol group and small acyl group and endogenous lipids such as triacylglycerol. Converts monoacylglycerides to free fatty acids and glycerol. Hydrolyzes of 2-arachidonoylglycerol and prostaglandins.

电泳图（SDS-PAGE image）



Greater than 95% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）



4-Nitrophenol mmol/L	OD400
1.25	3.0781
0.625	1.5975
0.3125	0.8359
0.15625	0.4225
0.078125	0.2104
0.0390625	0.1064

Figure 1. The standard curve of 4-Nitrophenol

One unit of enzyme activity is defined as the 1μg of enzyme required to convert 1pmol of 4-Nitrophenyl acetate to 4-Nitrophenol in 1min at 37°C. The specific activity of recombinant human CES2 is 502.86 umol/min/μg.

Specific Activity (pmol/min/μg)= $\frac{\Delta OD * F}{T * N}$

△OD=Adjusted for Substrate Blank
F=Conversion Factor (convert from standard curve of 4-Nitrophenol)
T= Time
N=Amount of enzyme

Carboxylesterase 2 (CES2) is a member of serine esterase family which can hydrolyze ester and amide bonds. The protein Involved in the detoxification of xenobiotics and in the activation of ester and amide prodrugs. Hydrolyzes aromatic and aliphatic esters, but has no catalytic activity toward amides or a fatty acyl-CoA ester. Hydrolyzes the methyl ester group of cocaine to form benzoylecgonine. Thus, the recombinant human CES2 activity was measured by its ability to hydrolyze 4-Nitrophenyl acetate (4-NPA) to 4-Nitrophenol. The reaction was performed in 50 mM Tris, 150 mM NaCl, pH 7.5 (Assay Buffer), ainitiated by addition 50 µL of various concentrations of CES2 (diluted by Assay Buffer) to 50 µL of 2 mM Substrate 4-NPA (100 mM stock in Acetone, diluted by Assay Buffer). Incubated at 37℃ for 10 min, then read at a wavelength of 400 nm.

注意事项（Note）

For Research Use Only , Not for Diagnostic Use.