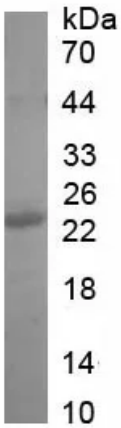
Active Carboxylesterase 3 (CES3)

Catalog#:PEH12951

概述（Summary）

别称（Alternative Names）	Br3; ES31; Brain carboxylesterase 3; Esterase 31; Liver carboxylesterase 31 homolog
纯度（Purity）	Greater than 90% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Ser398-Gln568】
Accession #	Q6UWW8
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	23.4 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 low catalytic efficiency for hydrolysis of CPT-11 (7-ethyl-10-[4-(1-piperidino)-1-piperidino]-carbonyloxycamptothecin), a prodrug for camptothecin used in cancer therapeutics.

电泳图（SDS-PAGE image）



Greater than 90% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

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

△OD=Adjusted for Substrate Blank

F=Conversion Factor(convert from standard curve of 4-Nitrophenol)

T= Time

N=Amount of enzyme

Carboxylesterase 3 (CES3) also known as Liver carboxylesterase 3 is a serine esterase and a member of a large family of carboxylesterases. 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 CES3 activity was measured by its ability to hydrolyze 4-Nitrophenyl acetate (4-NPA) to 4-Nitrophenol. The reaction was performed in 50 mM Tris, pH 7.5(Assay Buffer), initiated by addition 50 µL of various concentrations of CES3 (dilute by Assay Buffer) to 50 µL of 2 mM Substrate 4-NPA(100 mM stock in Acetone, dilute by deionized water). Incubated at 37℃ for 10min, then read at a wavelength of 400 nm. 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 CES3 is 700 pmol/min/µg.

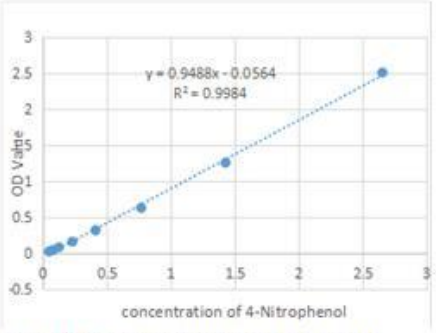


Figure 1. The standard curve of 4-Nitrophenol

4-Nitrophenol (product)mM	OD400nm
0.01953125	0.045
0.0390625	0.076
0.078125	0.123
0.15625	0.227
0.3125	0.409
0.625	0.766
1.25	1.426
2.5	2.653

注意事项（Note）

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