

CES2/carboxylesterase 2 Protein, Human (HEK293,C-His)

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|--------------------------|---|
| Cat. No.: | HY-P76192 |
| Synonyms: | Cocaine esterase; Carboxylesterase 2; CE-2; CES2; ICE |
| Species: | Human |
| Source: | HEK293 |
| Accession: | O00748-1 (Q27-L559) |
| Gene ID: | 8824 |
| Molecular Weight: | Approximately 60.4 kDa. |

PROPERTIES

AA Sequence

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|-------------|-------------|------------|-----------------|
| QDSASPIRRTT | HTGQVLGSLV | HVKGANAGVQ | TFLGIPFAKP |
| PLGPLRFAPP | EPPEWSGV | DGTTHPAMCL | QDLTAVESEF |
| LSQFNMTFPS | DSMSEDCLYL | SIYTPAHSHE | GSNLPVMVWI |
| HGGALVFGMA | SLYDGSMLAA | LENVVVVVIQ | YRLGVLGFFS |
| TGDKHATGNW | GYLDQVAALR | WVQQNIAHFG | GNPDRVTIFG |
| ESAGGTSVSS | LVVSPISQGL | FHGAIMESGV | ALLPGLIASS |
| ADVISTVVAN | LSACDQVDSE | ALVGCLRGS | KEEILAINKP |
| FKMIPGVVDG | VFLPRHPQEL | LASADFQPVP | SIVGVNNEF |
| GWLIPKVMRI | YDTQKEMDRE | ASQAALQKML | TLLMLPPTFG |
| DLLREEYIGD | NGDPQTLQAQ | FQEMMADSMF | VIPALQVAHF |
| QCSRAPVYFY | EFQHQP SWLK | NIRPPHMKAD | HGDEL P F V F R |
| SFFGGNYIKF | TEEEEQLSRK | MMKYWANFAR | NGNPNGEGLP |
| HWPLFDQEEQ | YLQLNLQPAV | GRALKAHRLQ | FWKKALPQKI |
| QELEEPEERH | TEL | | |

Biological Activity Measured by its ability to hydrolyze p-nitrophenylacetate. The specific activity is >20000 pmols/min/μg.

Appearance Lyophilized powder.

Formulation Lyophilized from a 0.2 μm filtered solution of 50 mM NaAc, 150 mM NaCl, 10% Glycerol, pH 5.5. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.

Endotoxin Level <1 EU/μg, determined by LAL method.

Reconstitution It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH₂O.

Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

The CES2/Carboxylesterase 2 Protein plays a crucial role in the detoxification of xenobiotics and the activation of ester and amide prodrugs. It exhibits high catalytic efficiency in the hydrolysis of various compounds, including cocaine, 4-methylumbelliferyl acetate, heroin, and 6-monoacetylmorphine. Additionally, CES2 hydrolyzes aspirin, substrates with large alcohol groups and small acyl groups, as well as endogenous lipids such as triacylglycerol. Notably, it is involved in the conversion of monoacylglycerides to free fatty acids and glycerol. Furthermore, CES2 demonstrates activity in the hydrolysis of 2-arachidonoylglycerol and prostaglandins, highlighting its versatility in enzymatic functions with potential implications in various biological processes and drug metabolism.

Caution: Product has not been fully validated for medical applications. For research use only.

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