

CES1 recombinant protein

CES1 Protein, Human, Recombinant (His Tag), HPLC-verified

CATALOG #
AAA259212

HOST
HEK293 Cells

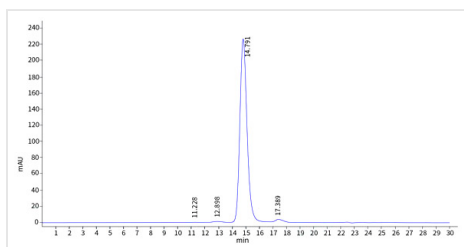
PRODUCT SYNONYMS

CES1; CES1 Protein; Human; Recombinant (His Tag); HPLC-verified; carboxylesterase 1; ACAT Protein; CE-1 Protein; CEH Protein; CES2 Protein; hCE-1 Protein; HMSE Protein; HMSE1 Protein; PCE-1 Protein; REH Protein; SES1 Protein; TGH Protein; CES1 recombinant protein

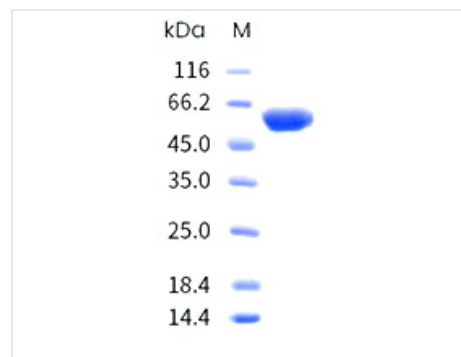
PRODUCT SPECIFICATIONS

Host	HEK293 Cells
Purity/Purification	>= 95% as determined by SDS-PAGE. = 90% as determined by SEC-HPLC.
Form/Format	Lyophilized from sterile PBS, pH 7.4. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.
Species	Human
Predicted N Terminal	Gly 18
Endotoxin	<1.0 EU per ug protein as determined by the LAL method.
Activity	Measured by its ability to hydrolyze p-nitrophenylacetate. The specific activity is >10,000 pmol/min/ug.
Protein Construction	A DNA sequence encoding the Human CES1 (NP_001020365)(Met1-Leu567) was expressed with a polyhistidine tag at the C-terminus.
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

IMAGES



Application Data



Application Data

ADDITIONAL INFORMATION

Related Product Information for CES1 recombinant protein	CES1 encodes carboxylesterase-1, an important drug-metabolizing enzyme with high expression in the liver. Variants generated by the exchange of segments with CES1P1 complicate the genotyping of CES1. CES1 is involved in the hydrolysis of ester group-containing xenobiotic and endobiotic compounds including several essential and commonly used drugs. The individual variation in the efficacy and tolerability of many drugs metabolized by CES1 is considerable. However, it has been problematic to express recombinant CES1 in bacterial expression systems due to low solubility, with the CES1 protein being mainly expressed in inclusion bodies, accompanied by insufficient purity issues. CES1 is capable of catalyzing the hydrolysis of a wide range of therapeutic agents, toxins, and endogenous compounds. Accumulating studies have demonstrated associations between the expression and activity of CES1 and the pharmacokinetics and/or pharmacodynamics of CES1 substrate medications.
References	Sanford JC, et al. (2016) Regulatory effects of genomic translocations at the human carboxylesterase-1 (ces1) gene locus. Pharmacogenet Genomics 26 (5): 197-207.Rasmussen HB, et al. (2015) Individualization of treatments with drugs metabolized by ces1: Combining genetics and metabolomics. Pharmacogenomics 16 (6): 649-665.Qian Y, et al. (2020) Natural products as modulators of ces1 activity. Drug Metab Dispos 48 (10): 993-1007.Ferrero-Miliani L, et al. (2017) Reappraisal of the genetic diversity and pharmacogenetic assessment of ces1. Pharmacogenomics 18 (13): 1241-1257.

NCBI AND UNIPROT INFORMATION

NCBI GI #	68508965
NCBI GeneID	1066
NCBI Accession #	NP_001020365
NCBI GenBank Nucleotide #	NM_001025194
UniProt Accession #	P23141
Molecular Weight	61kDa
NCBI Official Full Name	liver carboxylesterase 1 isoform b
NCBI Official Synonym Full Names	carboxylesterase 1
NCBI Official Symbol	CES1
NCBI Official Synonym Symbols	CEH; REH; TGH; ACAT; CE-1; CES2; HMSE; SES1; HMSE1; PCE-1; hCE-1
NCBI Protein Information	liver carboxylesterase 1
UniProt Protein Name	Liver carboxylesterase 1
UniProt Gene Name	CES1
UniProt Synonym Gene Names	CES2; SES1; ACAT; CE-1; hCE-1; REH; TGH
UniProt Entry Name	EST1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.