Data Sheet (Cat.No.TMPY-01690)

TargetMol

Carboxylesterase 2/CES2 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	carboxylesterase 2;ces2A3
Protein Construction:	A DNA sequence encoding the extracellular domain of mouse CES2 (NP_663578.1) (Met 1-Lys 557) was expressed, with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 27
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q91WG0
Molecular Weight:	60.4 kDa (predicted); 52 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to hydrolyze pnitrophenylacetate. The specific activity is >90,000 pmoles/min/μg.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Carboxylesterase 2 (CES2) is a member of the carboxylesterase family and belongs to the multigene family. Carboxylesterase 2 is responsible for the hydrolysis of ester- and amide-bond-containing drugs such as cocaine and beroin. It also serves to hydrolyze long-chain fatty acid esters and thioesters. It is speculated that carboxylesterases may play a role in lipid metabolism and the blood-brain barrier system and together with isform 1, are a serine esterase involved in both drug metabolism and activation. Human carboxylesterase 2 is

commonly expressed in tumor tissues and irinotecan, a topoisomerase I inhibitor commonly used in the treatment of many solid tumors.

Reference

Imai T, et al. (1997) Identification and molecular characterization of fractalkine receptor CX3CR1, which mediates both leukocyte migration and adhesion. Cell. 91(4): 521-30.
Papadopoulos EJ, et al. (1999) Fractalkine, a CX3C chemokine, is expressed by dendritic cells and is up-regulated upon dendritic cell maturation. Eur J Immunol. 29 (8): 2551-9.
Umehara H, et al. (2004) Fractalkine in vascular biology: from basic research to clinical disease". Arterioscler. Thromb Vasc Biol. 24 (1): 34-40.