

CROT Protein, Human, Recombinant (474 Leu/Val, His)

General Information

Synonyms:	carnitine O-octanoyltransferase;COT
Protein Construction:	A DNA sequence encoding the human CROT (Q9UKG9) (Met 1-Leu 612, 474 Leu/Val) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Met 1
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9UKG9
Molecular Weight:	71.5 kDa (predicted); 65 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 93 % 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 50 mM Tris, 100 mM NaCl, pH 8.0, 10% glycerol. 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

Carnitine octanoyltransferase (CROT or COT), also known as octanoyl-CoA: L-carnitine O-octanoyltransferase, medium-chain/long-chain carnitine acyltransferase, and carnitine medium-chain acyltransferase, is a carnitine acyltransferase belonging to the family of transferases, specifically those acyltransferases transferring groups other than aminoacyl groups that catalyzes the reversible transfer of fatty acyl groups between CoA and carnitine. Carnitine octanoyltransferase (CROT or COT) facilitate the transport of medium- and long-chain fatty acids through

the peroxisomal and mitochondrial membranes. It is physiologically inhibited by malonyl-CoA. COT also has functions in efficiently converting one of the end products of the peroxisomal beta-oxidation of pristanic acid, 4, 8-dimethylnonanoyl-CoA, to its corresponding carnitine ester.

Reference

Ferdinandusse S, et al. (1999) Molecular cloning and expression of human carnitine octanoyltransferase: evidence for its role in the peroxisomal beta-oxidation of branched-chain fatty acids. *Biochem Biophys Res Commun.* 263 (1): 213-8.

Feike R, et al. (2000) Genomics of the Human Carnitine Acyltransferase Genes. *Molecular Genetics and Metabolism.* 71 (1-2): 139-53.

Montserrat Morillas, et al. (2002) Structural Model of a Malonyl-CoA-binding Site of Carnitine Octanoyltransferase and Carnitine Palmitoyltransferase I. *The Journal of Biological Chemistry*, 277: 11473-80.

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