2-Oxoglutarate Decarboxylase (kgd) Mycobacterium Ulcerans Recombinant Protein

PRODUCT OVERVIEW

Product Name	2-oxoglutarate decarboxylase (kgd), Recombinant Protein
Full Product Name	Recombinant Mycobacterium ulcerans 2-oxoglutarate decarboxylase (kgd), partial
Product Gene Name	kgd recombinant protein
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	136,742 Da
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for A0PVU7
Species	Mycobacterium ulcerans (strain Agy99)
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for kgd recombinant protein	MBS1250535 is a recombinant protein targeting kgd. Also known as Recombinant Mycobacterium ulcerans 2-oxoglutarate decarboxylase (kgd), partial. Host: E Coli or Yeast or Baculovirus or Mammalian Cell.
Other Notes	Small volumes of kgd recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for kgd. It may not necessarily be applicable to this product.

NCBI GI #	500062148
NCBI Accession #	WP_011742065.1
UniProt Primary Accession #	A0PVU7
GenBank Nucleotide #	WP_011742065.1
NCBI Official Full Name	multifunctional oxoglutarate decarboxylase/oxoglutarate dehydrogenase thiamine pyrophosphate-binding subunit/dihydrolipoyllysine-residue succinyltransferase subunit
UniProt Protein Name	Multifunctional 2-oxoglutarate metabolism enzyme
UniProt Synonym Protein Names	2-hydroxy-3-oxoadipate synthase (EC:2.2.1.5); HOA synthase; HOAS; 2-oxoglutarate carboxy-lyase; 2-oxoglutarate decarboxylase; Alpha-ketoglutarate decarboxylase (EC:4.1.1.71); KG decarboxylase; KGD; Alpha-ketoglutarate-glyoxylate carboligaseIncluding the following 2 domains:2-oxoglutarate dehydrogenase E1 component (EC:1.2.4.2); ODH E1 componentAlternative name(s):Alpha-ketoglutarate dehydrogenase E1 component; KDH E1 component
Protein Family	Multifunctional 2-oxoglutarate metabolism enzyme

UniProt Gene Name	kgd
UniProt Synonym Gene Names	HOA synthase; HOAS; KG decarboxylase; KGD; ODH E1 component; KDH E1 component; ODH E2 component; OGDC-E2
UniProt Comments for kgd	Shows three enzymatic activities that share a first common step, the attack of thiamine-PP on 2-oxoglutarate (alpha-ketoglutarate, KG), leading to the formation of an enamine-thiamine-PP intermediate upon decarboxylation. Thus, displays KGD activity, catalyzing the decarboxylation from five-carbon 2-oxoglutarate to four-carbon succinate semialdehyde (SSA). Also catalyzes C-C bond formation between the activated aldehyde formed after decarboxylation of alpha-ketoglutarate and the carbonyl of glyoxylate (GLX), to yield 2-hydroxy-3-oxoadipate (HOA), which spontaneously decarboxylates to form 5-hydroxylevulinate (HLA). And is also a component of the 2-oxoglutarate dehydrogenase (ODH) complex, that catalyzes the overall conversion of 2-oxoglutarate to succinyl-CoA and CO2. The KG decarboxylase and KG dehydrogenase reactions provide two alternative, tightly regulated, pathways connecting the oxidative and reductive branches of the TCA cycle ().
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