

Product datasheet

Recombinant *E. coli* Glucokinase protein (Active)
 ab208303

1 Image

Description

Product name	Recombinant <i>E. coli</i> Glucokinase protein (Active)
Biological activity	Specific activity is > 70 units/mg obtained by measuring the increase of NADPH in absorbance at 340 nm resulting from the reduction of NADP. One unit will oxidize 1.0 umole of Glucose to D-glucose 6-phosphate per minute in the presence of Beta-NADP at pH 9.0 at 37°C.
Purity	> 95 % SDS-PAGE. ab208303 was purified by conventional chromatography techniques
Expression system	Escherichia coli
Accession	P0A6V8
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Escherichia coli
Sequence	<pre> MGSSHHHHHH SSGLVPRGSH MGSMTKYALV GDVGGTNARL ALCDIASGEI SQAKTYSGLD YPSLEAVIRV YLEEHKVEVK DGCIAIACPI TGDWVAMTNH TWAFSAEMK KNLGFHLEI INDFTAVSMA IPMLKKEHLI QFGGAEPVEG KPIAVYGAGT GLGVAHLVHV DKRWVSLPGE GGHVDFAPNS EEEAILEIL RAEIGHVSAE RVLSGPGLVN LYRAVKADN RLPENLKPKD ITERALADSC TDCRRALSLF CVIMGRFGGN LALNLGTFGG VFIAGGMVPR FLEFFKASGF RAAFEDKGRF KEYVHDIPVY LMVDNPGLL GSGAHLRQTL GHIL </pre>
Predicted molecular weight	37 kDa including tags
Amino acids	1 to 321
Tags	His tag N-Terminus
Additional sequence information	NP_416889

Specifications

Our [Abpromise guarantee](#) covers the use of **ab208303** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Functional Studies Mass Spectrometry SDS-PAGE
Mass spectrometry	MALDI-TOF
Form	Liquid

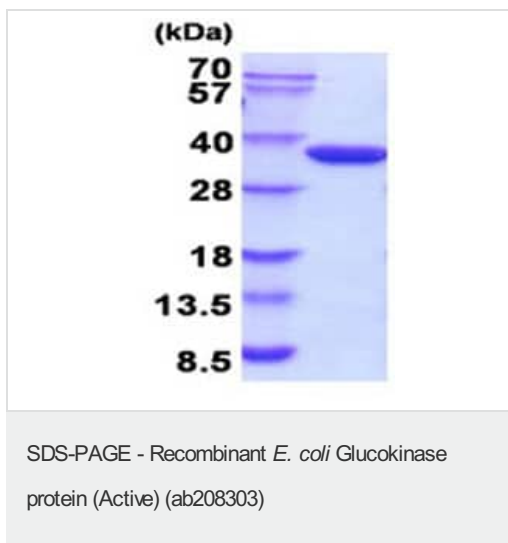
Preparation and Storage

Stability and Storage	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. pH: 8.00 Constituents: 0.32% Tris HCl, 10% Glycerol, 0.87% Sodium chloride This product is an active protein and may elicit a biological response in vivo, handle with caution.
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General Info

Function	Catalyzes the initial step in utilization of glucose by the beta-cell and liver at physiological glucose concentration. Glucokinase has a high Km for glucose, and so it is effective only when glucose is abundant. The role of GCK is to provide G6P for the synthesis of glycogen. Pancreatic glucokinase plays an important role in modulating insulin secretion. Hepatic glucokinase helps to facilitate the uptake and conversion of glucose by acting as an insulin-sensitive determinant of hepatic glucose usage.
Tissue specificity	Isoform 1 is expressed in pancreas. Isoform 2 and isoform 3 is expressed in liver.
Involvement in disease	Defects in GCK are the cause of maturity-onset diabetes of the young type 2 (MODY2) [MIM:125851]; also shortened MODY-2. MODY is a form of diabetes that is characterized by an autosomal dominant mode of inheritance, onset in childhood or early adulthood (usually before 25 years of age), a primary defect in insulin secretion and frequent insulin-independence at the beginning of the disease. Defects in GCK are the cause of familial hyperinsulinemic hypoglycemia type 3 (HHF3) [MIM:602485]; also known as persistent hyperinsulinemic hypoglycemia of infancy (PHHI) or congenital hyperinsulinism. HHF is the most common cause of persistent hypoglycemia in infancy. Unless early and aggressive intervention is undertaken, brain damage from recurrent episodes of hypoglycemia may occur.
Sequence similarities	Belongs to the hexokinase family.

Images



15% SDS-PAGE analysis of ab208303 (3 µg)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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