Glucose-6-Phosphatase, Catalytic (G6PC) ELISA Kit for Mouse

PRODUCT OVERVIEW

Product Name	Glucose-6-Phosphatase, Catalytic (G6PC), ELISA Kit
Full Product Name	Mouse Glucose-6-Phosphatase, Catalytic ELISA Kit
Product Gene Name	G6PC elisa kit
Species Reactivity	Mouse
Assay Type	Sandwich
Samples	Undiluted original Mouse body fluids, tissue homogenates, secretions or feces samples. This kit is NOT suitable for assaying non-biological sources of substances.
Detection Range	3.12 U/L - 100 U/L.
Sensitivity	1.0U/L.
Specificity	No significant cross-reactivity or interference between this analyte and analogues is observed.
Preparation and Storage	Store all reagents at 2-8 degree C
Inter-assay Precision	Inter-assay CV (%) is less than 15%. [CV(%) = SD/mean ×100].
Intra-assay Precision	Intra-assay CV (%) is less than 15%.
Molecular Weight	40,484 Da
OMIM	232200
3D Structure	ModBase 3D Structure for P35575
Related Product Information for G6PC elisa kit	Background/Introduction: This Quantitative Sandwich ELISA kit is only for in vitro research use only! This kit is intended to be used for determination the level of G6PC (hereafter termed "analyte") in undiluted original Mouse body fluids, tissue homogenates, secretions or feces samples. This kit is NOT suitable for assaying non-biological sources of substances.
Other Notes	Small volumes of G6PC elisa kit 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.
Searchable Terms for G6PC purchase	MBS063014 is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Glucose-6-Phosphatase, Catalytic (G6PC) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing G6PC. The ELISA analytical biochemical technique of the MBS063014 kit is based on G6PC antibody-G6PC antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect G6PC antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, G6PC. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for G6PC. It may not necessarily be applicable to this product.

NCBI GI #	206729864
NCBI GeneID	2538
NCBI Accession #	P35575.2

UniProt Primary Accession #	P35575
UniProt Secondary Accession #	A1L4C0; B4E1C3; K7EL82
UniProt Related Accession #	P35575
NCBI Official Full Name	Glucose-6-phosphatase
NCBI Official Synonym Full Names	glucose-6-phosphatase, catalytic subunit
NCBI Official Symbol	G6PC
NCBI Official Synonym Symbols	G6PT; GSD1; G6PC1; GSD1a
UniProt Protein Name	Glucose-6-phosphatase
UniProt Synonym Protein Names	Glucose-6-phosphatase alpha
Protein Family	Glucose-6-phosphatase
UniProt Gene Name	G6PC
UniProt Synonym Gene Names	G6PT; G-6-Pase; G6Pase
UniProt Entry Name	G6PC_HUMAN
NCBI Protein Information	glucose-6-phosphatase; G6Pase; G-6-Pase; G6Pase-alpha; glucose-6-phosphatase alpha
NCBI Summary for G6PC	Glucose-6-phosphatase (G6Pase) is a multi-subunit integral membrane protein of the endoplasmic reticulum that is composed of a catalytic subunit and transporters for G6P, inorganic phosphate, and glucose. This gene (G6PC) is one of the three glucose-6-phosphatase catalytic-subunit-encoding genes in human: G6PC, G6PC2 and G6PC3. Glucose-6-phosphatase catalyzes the hydrolysis of D-glucose 6-phosphate to D-glucose and orthophosphate and is a key enzyme in glucose homeostasis, functioning in gluconeogenesis and glycogenolysis. Mutations in this gene cause glycogen storage disease type I (GSD1). This disease, also known as von Gierke disease, is a metabolic disorder characterized by severe hypoglycemia associated with the accumulation of glycogen and fat in the liver and kidneys.[provided by RefSeq, Feb 2011]
UniProt Comments for G6PC	G6PC: Hydrolyzes glucose-6-phosphate to glucose in the endoplasmic reticulum. Forms with the glucose-6-phosphate transporter (SLC37A4/G6PT) the complex responsible for glucose production through glycogenolysis and gluconeogenesis. Hence, it is the key enzyme in homeostatic regulation of blood glucose levels. Defects in G6PC are the cause of glycogen storage disease type 1A (GSD1A). A metabolic disorder characterized by impairment of terminal steps of glycogenolysis and gluconeogenesis. Patients manifest a wide range of clinical symptoms and biochemical abnormalities, including hypoglycemia, severe hepatomegaly due to excessive accumulation of glycogen, kidney enlargement, growth retardation, lactic acidemia, hyperlipidemia, and hyperuricemia. Belongs to the glucose-6-phosphatase family. Protein type: Transporter, SLC family; Endoplasmic reticulum; Membrane protein, integral; Transporter; Carbohydrate Metabolism - galactose; Carbohydrate Metabolism - glycolysis and gluconeogenesis; Phosphatase (non-protein); Membrane protein, multi-pass; EC 3.1.3.9; Carbohydrate Metabolism - starch and sucrose Chromosomal Location of Human Ortholog: 17q21 Cellular Component: endoplasmic reticulum membrane; integral to membrane; integral to endoplasmic reticulum membrane Molecular Function: glucose-6-phosphatase activity; phosphate binding; phosphotransferase activity, alcohol group as acceptor Biological Process: response to food; glycogen metabolic process; steroid metabolic process; phosphorylated carbohydrate dephosphorylation; glycogen catabolic process; multicellular organism growth; glucose 6-phosphate metabolic process; pathogenesis; glucose transport; glucose homeostasis; gluconeogenesis; cholesterol homeostasis; triacylglycerol metabolic process; urate metabolic process; regulation of gene expression; glucose-6-phosphate transport; hexose transport; carbohydrate metabolic process; transmembrane transport Disease: Glycogen Storage Disease Ia
Research Articles on G6PC	**1.** The spectrum of mutations in the G6PC gene.

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