

Recombinant Rat GCK protein (His Tag)

Catalog Number: PDER100176

Note: Centrifuge before opening to ensure complete recovery of vial contents.

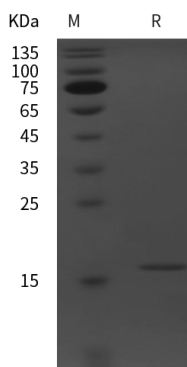
Description

Species	Rat
Source	E.coli-derived Rat GCK protein Met1-Gly147, with an N-terminal His
Calculated MW	16.1 kDa
Observed MW	16 kDa
Accession	P17712
Bio-activity	Not validated for activity

Properties

Purity	> 95% as determined by reducing SDS-PAGE.
Endotoxin	< 10 EU/mg of the protein as determined by the LAL method
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 °C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



> 95 % as determined by reducing SDS-PAGE.

Background

For Research Use Only

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Catalyzes the phosphorylation of hexose, such as D-glucose, D-fructose and D-mannose, to hexose 6-phosphate (D-glucose 6-phosphate, D-fructose 6-phosphate and D-mannose 6-phosphate, respectively) (PubMed:6477520, PubMed:12513690, PubMed:24187134).

Compared to other hexokinases, has a weak affinity for D-glucose, and is effective only when glucose is abundant (PubMed:6477520).

Mainly expressed in pancreatic beta cells and the liver and constitutes a rate-limiting step in glucose metabolism in these tissues (By similarity).

Since insulin secretion parallels glucose metabolism and the low glucose affinity of GCK ensures that it can change its enzymatic activity within the physiological range of glucose concentrations, GCK acts as a glucose sensor in the pancreatic beta cell (By similarity).

In pancreas, plays an important role in modulating insulin secretion (By similarity).

In liver, helps to facilitate the uptake and conversion of glucose by acting as an insulin-sensitive determinant of hepatic glucose usage (By similarity).

Required to provide D-glucose 6-phosphate for the synthesis of glycogen (By similarity).

Mediates the initial step of glycolysis by catalyzing phosphorylation of D-glucose to D-glucose 6-phosphate (PubMed:6477520, PubMed:12513690).