

Recombinant Human Klotho beta/KLB Protein

Catalog No.: RP02210 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
human	152831	Q86Z14

Tags

C-His

Synonyms

KLB;Beta-klotho; BKL; BetaKlotho; Klotho beta-like protein

Product Information

Source	Purification
HEK293 cells	> 95% by SDS-PAGE.

Calculated MW	Observed MW
110.25 kDa	110-140 kDa

Endotoxin

< 1 EU/μg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

Klotho beta/KLB is a divergent structural member of the glycosidase I superfamily, is expressed primarily in the liver and pancreas, with lower expression in adipose tissue. Like Klotho, Klotho beta facilitates binding between FGF19 subfamily members and their receptors via formation of a ternary complex. The Klotho beta mediated interaction of human FGF19 (mouse FGF15) with FGF Receptor 4 in the liver negatively regulates bile acid synthesis by controlling the secretion of two key bile acid synthase genes, cholesterol 7-alpha hydroxylase (Cyp7a1) and sterol 12-alpha hydroxylase (Cyp8b1). Klotho beta is also a cofactor for the interaction of FGF21 with FGF Receptor 1c in adipocytes, which allows FGF21 to stimulate GLUT1 expression, upregulating adipocyte insulin-dependent glucose uptake. Since Klotho-related proteins lack critical active site Glu residues present in beta-glycosidases, it was initially unclear whether they were functional enzymes. However, glucuronidase activity has since been demonstrated for Klotho, indicating that physiologically relevant enzymatic activity for Klotho beta is also possible.

Basic Information

Description

Recombinant Human Klotho beta/KLB Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Met30-Thr983) of Human Klotho beta/KLB (Accession #NP_783864.1) fused with a his tag at the C-terminus.

Bio-Activity

Immobilized Human Klotho at 1 μg/mL(100 μL/Well).Dose response curve for Anti-Klotho Ab.1 with the EC₅₀ of 0.4 μg/ml determined by ELISA. Immobilized Human Klotho at 2μg/ml(100 μL/Well).Dose response curve for Anti-Klotho Ab. 2 with the EC₅₀ of 20.5 ng/mL determined by ELISA.

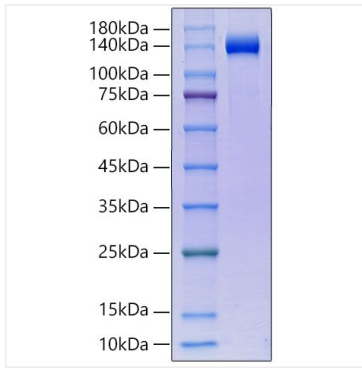
Storage

Store at -20°C.Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Human Klotho beta/KLB Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.