

Beta Klotho Protein, Human, Recombinant (aa 53-983, His)

General Information

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| Synonyms: | BetaKlotho;Beta-klotho;KLB;Klotho beta-like protein;BKL |
| Protein Construction: | A DNA sequence encoding the Human KLB (Q86Z14) (Phe53-Thr983) was expressed with a polyhistidine tag at the C-terminus. |
| Species: | Human |
| Expression Host: | HEK293 Cells |
| Accession: | Q86Z14 |
| Molecular Weight: | 108.53 kDa (predicted); 128.7 kDa (reducing conditions) |

QC Testing

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| Biological Activity: | Immobilized FGF-21 Protein, Human, Recombinant (Cat#TMPY-06935) at 2 µg/mL (100 µL/well) can bind Recombinant Beta Klotho Protein, Human, Recombinant (aa 53-983, His) (Cat#TMPY-06989), the EC50 is 60-180 ng/mL. |
| Purity: | ≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC. |
| Endotoxin: | < 1.0 EU/µg of the protein as determined by the LAL method. |
| Formulation: | Supplied as sterile PBS, 5% trehalose, 0.1 mM EDTA, 50% Glycerol, pH 6.8. |

Preparation and Storage

Stability & Storage:

Samples are stable for up to twelve months from date of receipt at -20°C to -80°C. Store it under sterile conditions at -20°C to -80°C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Klotho beta (KLB) is a 130-kDa type I transmembrane protein composed of a signal sequence, a 29 aa intracellular domain, and two extracellular glycosidase domains. KLB functions as an essential co-receptor of fibroblast growth factor receptor complexes, like FGFR1c and FGFR4, thereby facilitating the activation of downstream signaling in bile acid synthesis. Its gene located on chromosome 4p14, KLB is selectively abundant in metabolic tissues (adipose, liver, pancreas) and is essential for high-affinity binding of endocrine FGF19 and FGF21 involved in homeostatic glucose metabolism and energy expenditure. Mutation is associated with metabolic defects such as hypogonadotropic hypogonadism. KLB overexpression promotes the activation of the PI3K/AKT signaling pathway stimulated by TGF-β1 and thus enhances cell fibrosis and proliferation in patients with intrauterine adhesion. KLB upregulation in prostate cancer (via Rab8a-dependent mechanism) and hepatocellular carcinoma tissues shows a potential tumor-promoting role.

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