

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Phe53-Leu997, with a C-terminal 10-His tag
Accession # Q86Z14

N-terminal Sequence Analysis Phe53

Predicted Molecular Mass 110 kDa

SPECIFICATIONS

SDS-PAGE 126 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When 2 $\mu\text{g/mL}$ (100 $\mu\text{L/well}$) of Recombinant Human (rh) Klotho β was immobilized onto a Ms x hKlotho β coated plate, the concentration of rhFGF-21 that produces 50% of the optimal binding response was found to be approximately 3-18 ng/mL.

Endotoxin Level <0.10 EU per 1 μg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Supplied as a 0.2 μm filtered solution in PBS, Glycerol and EDTA. See Certificate of Analysis for details.

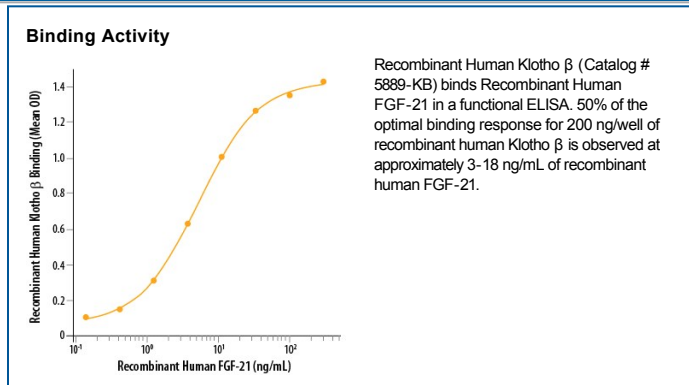
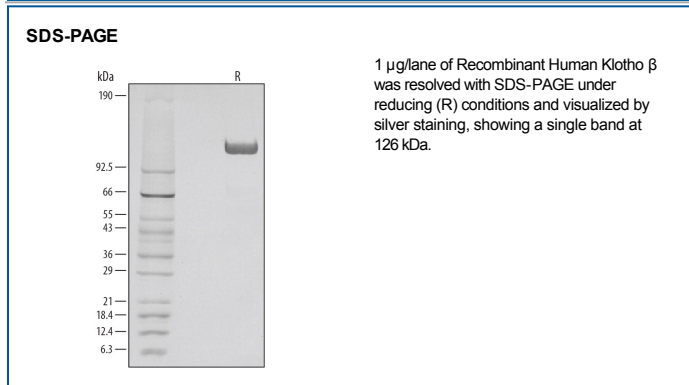
PREPARATION AND STORAGE

Shipping The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after opening.

DATA



BACKGROUND

Klotho β , a divergent structural member of the glycosidase I superfamily, is expressed primarily in the liver and pancreas, with lower expression in adipose tissue (1, 2). Like Klotho, Klotho β facilitates binding between FGF19 subfamily members and their receptors via formation of a ternary complex (3). The Klotho β 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- α hydroxylase (Cyp7a1) and sterol 12- α hydroxylase (Cyp8b1) (2-5). Klotho β 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 (2-4, 6). The 1043 amino acid (aa) type I transmembrane protein is composed of a 51 aa signal sequence, a 943 aa extracellular domain (ECD) containing two glycosidase-like regions, a 21 aa transmembrane domain, and 28 aa intracellular tail. Since Klotho-related proteins lack critical active site Glu residues present in β -glycosidases, it was initially unclear whether they were functional enzymes (1, 7). However, glucuronidase activity has since been demonstrated for Klotho, indicating that physiologically relevant enzymatic activity for Klotho β is also possible (8). The extracellular domain shares 79%, 87%, 87% and 67% identity with mouse, equine, canine and rat Klotho β , respectively. The low identity with rat reflects aa discordance within rodent ECD.

References:

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3. Ito, S. *et al.* (2005) J. Clin. Invest. **115**:2202.
4. Kurosu, H. *et al.* (2007) J. Biol. Chem. **282**:26687.
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7. Chang, Q. *et al.* (2005) Science **310**:490.
8. Goetz, R. *et al.* (2007) Mol. Cell. Biol. **27**:3417.