Human Klotho β Antibody

Monoclonal Mouse IgG_{2A} Clone # 885935

Catalog Number: MAB5889

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Klotho β in direct ELISA and Western blots.
Source	Monoclonal Mouse IgG_{2A} Clone # 885935
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Klotho β Phe53-Leu997 Accession # Q86Z14
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

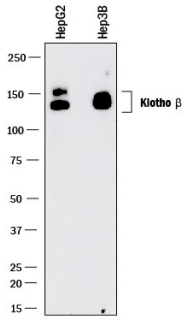
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Simple Western	10 µg/mL	See Below

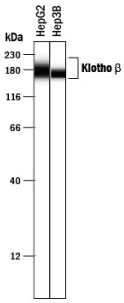
DATA

Western Blot



Detection of Human Klotho β by Western Blot. Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line and Hep3B human hepatocellular carcinoma cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human Klotho β Monoclonal Antibody (Catalog # MAB5889) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). Specific bands were detected for Klotho β at approximately 130-140 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



Detection of Human Klotho β by Simple Western™. Simple Western lane view shows lysates of HepG2 human hepatocellular carcinoma cell line and Hep3B human hepatocellular carcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for Klotho β at approximately 177/170 kDa (as indicated) using 10 µg/mL of Mouse Anti-Human Klotho β Monoclonal Antibody (Catalog # MAB5889) . This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Klotho β (b-Klotho or KLB) is a 125-135 kDa member of the KL family, Glycosyl Hydrolase 1 superfamily of proteins. It plays key role in the biology of the endocrine FGFs (FGF-15/19; 21; 23). KLB appears to serve as a signaling cofactor for select FGFRs, including FGFR-1c, -2c, -3c and FGFR4. The cofactor is known to constitutively interact with FGFRs, promote FGF binding to their appropriate FGFRs, and to bind directly to FGF-19 and FGF-21. Notably, FGF-23 appears to utilize a-Klotho/KL for its FGFR signaling cofactor, and FGF-1, while not dependent upon KLB for signaling, can utilize KBL to potentiate certain activities. KLB is expressed on select cells, including adipocytes and hepatocytes. Human KLB is a 1044 amino acids (aa) type III transmembrane (TM) protein (i.e.-a type I TM protein lacking a signal sequence). It contains a 996 aa extracellular region (aa 1-996) and a 27 aa cytoplasmic domain (aa 1018-1044). The extracellular region contains two glycosyl hydrolase domains (aa 77-508 and 517-967) plus eleven potential N-linked glycosylation sites. Neither hydrolase domain is active as they lack a key Glu residue needed for activity. Over aa 53-997, human KLB shares 80% aa sequence identity with mouse KLB. And relative to KL/a-Klotho, human KLB and KL share just 44% aa sequence identity over the entire length of the molecules.

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