Human FGF-23 Antibody

Monoclonal Mouse IgG_{2B} Clone # 275802

Catalog Number: MAB2604

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human FGF-23 in direct ELISAs and Western blots. Does not cross-react with recombinant human (rh) FGF acidic, rhFGF basic, rhFGF-3, -4, -5, -6, -7, -9, -10, -11, -12, -13, -16, -17, -18, -19, -20, -21, recombinant mouse FGF-8b, -8c, or -15.
Source	Monoclonal Mouse IgG_{2B} Clone # 275802
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human FGF-23 Tyr25-Ile251 (Arg179Gln) Accession # Q9GZV9
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	Recombinant Human FGF-23 (Catalog # 2604-FG)

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

Fibroblast growth factor 23 (FGF-23) is a 30-32 kDa member of the FGF family, within a subfamily that also includes FGF-19 and FGF-21. FGF proteins contain a 120 amino acid (aa) core FGF domain that exhibits a β-trefoil structure (1, 2). FGF-19 subfamily members are highly diffusible molecules owing to their poor ECM/heparin sulfate binding and plasma-stabilizing intramolecular folds (2-4). Mature human FGF-23 contains an atypical (very low affinity) heparin binding site (aa 134-162), a proteolytic cleavage site (Arg179-Ser180), and multiple O-linked glycosylation sites with Thr178 being of particular importance (4-7). O-linked glycosylation at Thr178 blocks the cleavage of FGF-23, thereby preventing loss of FGF-23 activity (7, 8). Mature human FGF-23 shows 72% aa identity to mouse FGF-23 and is active on mouse cells (6). FGF-23 exerts its effects through a ternary complex that includes Klotho and an FGF receptor (FGF R4 or the "c" isoforms of FGF R1 or FGF R3). Klotho has a restricted distribution that limits FGF-23 activity (9-11). FGF-23 is produced by osteocytes and osteoblasts in response to high circulating phosphate levels, elevated parathyroid hormone, and circulatory volume loading. It functions as an endocrine phosphatonin by suppressing circulating phosphate levels (12). FGF-23 interaction with renal proximal tubular epithelium decreases the renal resorption of phosphate by downregulating phosphate transporters and by suppressing vitamin D production. It also decreases the intestinal absorption of phosphate (13).

References:

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