Recombinant Human FGF-22

Catalog Number: 3867-FG/CF

DESCRIPTION

Source	*E. coli*-derived Thr23-Ser170, with an N-terminal Met and 6-His tag Accession # Q9HCT0
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	18 kDa

SPECIFICATIONS

Activity	Measured in a cell proliferation assay using 4MBr-5 rhesus monkey epithelial cells. Rubin, J.S. *et al.* (1989) Proc. Natl. Acad. Sci. USA **86**:802. The ED_{50} for this effect is 50-300 ng/mL.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain at 5 µg per lane.
Formulation	Lyophilized from a 0.2 µm filtered solution in MES, Na_2SO_4, EDTA, Sucrose and DTT. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. 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, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Fibroblast growth factor-22 (FGF-22) is a 23 kDa, non-glycosylated member of the FGF-7 subfamily, from the FGF family of heparin-binding growth factors (1-3). The human FGF-22 precursor is 170 amino acids (aa) in length, and contains a 22 aa signal sequence with a 148 aa mature region (4-6). The mature region shows a centrally-placed, 120 aa β-trefoil region (aa 43-168) that is characteristic of all FGF family members. Human FGF-22 potentially has one alternate splice form. This isoform is 129 aa in length, and shows a 31 aa substitution for the first N-terminal 72 aa of the standard, or long, form (7). There is no information related to its possible function. Mature human FGF-22 is 86% aa identical to mouse FGF-22, with the mouse molecule showing a 9 aa deletion at the N-terminus (5). FGF-22 is synthesized by at least three cell types; keratinocytes, neurons, and skeletal muscle myotubes (4, 8, 9). In neurons and myotubes, FGF-22 is presumed to function as an organizer of the presynaptic apparatus. Expressed by postsynaptic (or target) cells, FGF-22 is believed to bind to FGF R2b on the surface of innervating processes, resulting in synaptic vesicle clustering, organization, and neurite branching (8, 10). Although FGF-22 is assumed to be secreted, little can be found in expressing cell culture media. Presumably, it is bound to 34 kDa FGF-BP1, which is a molecule described as typically associated with cell membrane proteoglycans (6, 11). Thus, following secretion, FGF-22 could quickly be immobilized by FGF-BP1, only to be released at a later time, or aided by FGF-BP1 in its interaction with FGF R2b (6, 10, 11).

References:

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