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Recombinant tuna FGF-2 (145 aa) protein (Qk104)

Type: Stem cells

Available for purchase: Unit Size (µg): 25, 50, 100, 500, 1000

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Product Information

Recombinant tuna FGF-2 protein 145 aa (bFGF/basic FGF) for the development of optimized serum-free culture media for species-specific yellowfin tuna (Thunnus albacares) in cellular agriculture protocols and veterinary research applications. This shorter form of FGF-2 is used in comparative cell culture media optimization studies alongside Qk105, the 154 aa form of tuna FGF-2. FGF-2 is used extensively in the maintenance and proliferation of induced pluripotent (iPSC) and embryonic stem cells (ESC) and for enhancement of proliferation in primary tuna cell culture. Receptor binding affinity and efficacy may differ depending on each species. Using a species-specific growth factor enhances receptor binding affinity, resulting in a lower concentration required in culture.

Qkine tuna FGF-2 is a high purity 16.2 kDa FGF-2 / bFGF protein, animal origin-free (AOF) and carrier-protein free (CF).

Alternative protein names

Basic fibroblast growth factor, bFGF, FGF-β, FGF2, FGF 2, Fibroblast growth factor-basic, HBGF-2, betaFGF, beta FGF

Molecular weight

16.2 kDa (monomer)

Protein Uniprot number

High purity tuna protein (Uniprot number: XP_044218972.1)

Species reactivity

- tuna

Product Information

- >98%, by SDS-PAGE quantitative densitometry
- Expressed in *E. coli*
- Animal origin-free (AOF) and carrier protein-free
- Manufactured in our Cambridge, UK laboratories
- Lyophilized from Tris, NaCl, CyS, mannitol

Reconstitution instructions

- Resuspend in sterile-filtered water at >50 µg/ml

Featured applications

- Expansion of tuna pluripotent, embryonic and mesenchymal stem cells
- Cellular agriculture and cultivated meat cell culture media optimization
- Serum-free media development
- Cellular proliferation, migration and survival

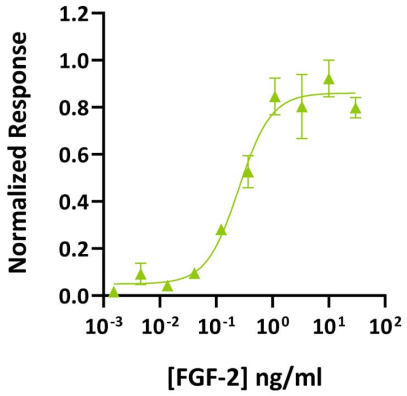
Further quality assays

- Mass spectrometry: single species with expected mass
- Recovery from stock vial: >95%
- Endotoxin: <0.05 EU/µg protein

Scientific Information

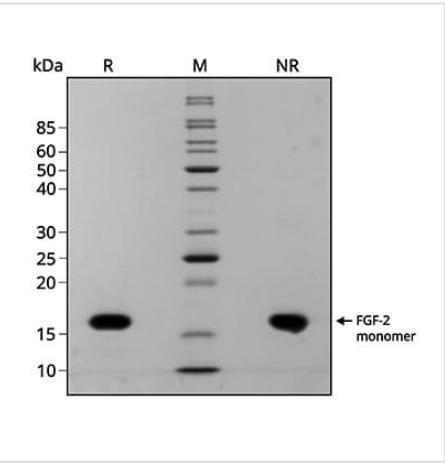
Bioactivity

Recombinant tuna FGF-2 145 aa activity was determined using the Promega serum response element luciferase reporter assay in transfected HEK293T cells. Cells were treated in triplicate with a serial dilution of FGF-2 for 3 hours. Firefly luciferase activity was measured and normalized to the control Renilla luciferase activity. Data from Qk104 lot #204642. EC50 = 0.253 ng/ml (15.6 pM).



Purity

Recombinant tuna FGF-2 145 aa migrates as a major band at approximately 16 kDa (monomer) in reduced (R) and non-reduced (NR) conditions. No contaminating protein bands are present. The purified recombinant protein (3 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptoethanol, R) and non-reduced (NR) conditions and stained with Coomassie Brilliant Blue R250. Data from Qk104 lot #204642.



Original product page: https://ryan.calliope-alpha.ts.net/product/recombinant-tuna-fgf-2-145aa-protein-qk104/

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