FGF2-G3 (bovine) Growth Factor USER GUIDE

Animal-free, thermostable, purified bovine fibroblast growth factor 2
Liquid: Catalog # LSR-302-10-L, LSR-302-50-L, LSR-302-100-L, LSR-302-1MG-L
Powder: Catalog # LSR-302-10-P, LSR-302-50-P, LSR-302-100-P, LSR-302-1MG-P

Product Description

Defined Bioscience's FGF2-G3 (bovine), or btFGF2-G3, is a thermostabilized growth factor that offers a novel way to grow FGF2-dependent cell cultures more efficiently, with fewer medium changes. btFGF2-G3 possesses the same nine mutations found to improve thermostability of human FGF2, applied to the native *Bos taurus* FGF2 sequence (UniProt P03969). The stability of FGF2-G3 in culture allows for a more homogeneous, undifferentiated stem cell culture, while saving researchers valuable time and money, as repeated supplementation of FGF2 and daily medium changes are not required.

btFGF2-G3 is recombinantly expressed in *E. coli* with an N-terminal hexahistidine tag, thrombin cleavage site, and T7 tag. All stocks are provided in storage buffer (10 mM Tris-HCl pH 8.0, 500 mM NaCl, 5 mM bME) at 1 mg/mL, or freeze-dried from this same format. Sample purity is >95% as confirmed by SDS-PAGE (**Figure 1**).

Contents and Storage

Content	Catalog #	Amount	Storage	Shelf life
btFGF2-G3 Thermostable Growth Factor	LSR-302-10 LSR-302-50 LSR-302-100 LSR-302-1MG	1 x 10 µg 1 x 50 µg 1 x 100 µg 1 x 1 mg	Store at -20°C protected from light	1 year

Biological Activity

btFGF2-G3 has an expected EC50 of less than 1 ng/mL, as determined in-house for all lots by an NIH-3T3 cell proliferation assay.

Key Characteristics

btFGF2-G3 differs from the native sequence of bovine FGF2 (UniProt accession P03969) at nine key residues found to promote increased thermostability and function in cell culture for human FGF2. FGF2-G3 is critical for use in cell culture conditions greater than room temperature; and helps to eliminate the need for weekend supplementation and daily medium changes for stem cell culture.

General Use

btFGF2-G3 is supplied as a 1 mg/mL solution in storage buffer or in a freeze-dried form that can be reconstituted into most standard buffer formulations as needed for downstream use. btFGF2-G3 can be substituted directly for native FGF2, with dosage testing recommended for optimal performance. It is recommended to reconstitute powder btFGF2-G3 to 1 mg/mL with water before use.

Figures

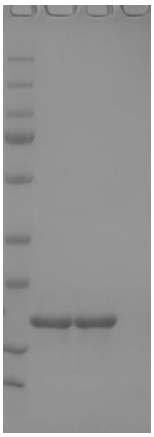

Figure 1. Representative SDS-PAGE analysis of purified btFGF2-G3. Percentage purity determined by SDS-PAGE and occasionally by MS/MS analysis. Mass corresponds to the monomeric form of btFGF2-G3, with associated N-terminal tags (20.9 kDa). RBG BroadRange MWL used in lane 1.

References

D. Pavel, D. Bednar, P. Vanacek, L. Balek, L. Eiselleova, V. Stepankova, E. Sebestova, M. Kunova Bosakova, Z. Konecna, S. Mazurenko. A. Kunka, T. Vanova, K. Zoufalova, R. Chaloupkova, J. Brezovsky, P. Krejci, Z. Prokop, P. Dvorak, J. Damborsky, *Biotechnology and Bioengineering* 2018, **115**, 850.

Limited Product Warranty

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