PRODUCT DESCRIPTION

Basic Fibroblast Growth Factor (bFGF) is a member of the FGF family. bFGF has been shown to support the maintenance of undifferentiated human embryonic stem cells. It also stimulates the proliferation of all cells of mesodermal origin, and many cells of neuroectodermal, ectodermal and endodermal origin, including fibroblasts, endothelial cells, astrocytes, oligodendrocytes, neuroblasts, keratinocytes, osteoblasts, smooth muscle cells and melanocytes. bFGF is a chemotactic and mitogenic agent for endothelial cells *in vitro* and induces neural differentiation, survival and regeneration. It has been shown to be crucial in modulating embryonic development and differentiation. These observations from *in vitro* functions of bFGF suggest it may play a role in the modulation of angiogenesis, tissue repair, embryonic development and neuronal function *in vivo*. There are a variety of forms of bFGF due to N-terminal extensions. These extensions affect localization of bFGF in cellular compartments but do not affect biological activity. The 157 amino acid residue recombinant protein has a predicted molecular mass of approximately 17.4 kDa.

PRODUCT INFORMATION SHEET

Cytokines

STEMCELL TECHNOLOGIES

Recombinant Human Basic Fibroblast Growth Factor (Carrier-Free)

CATALOG #02654 25 µg/vial

SOURCE

A DNA sequence corresponding to the mature human FGF basic protein sequence was expressed in *E. coli.*[1]

PURITY

Purity is greater than 97%, as determined by SDS-PAGE and visualized by silver stain. Endotoxin level is <1.0 EU per 1 µg cytokine, as determined by the LAL method.

STABILITY AND STORAGE

Recombinant human bFGF is stable for up to twelve months from date of receipt at -20°C to -70°C (in a manual defrost freezer).

Upon thawing, recombinant human bFGF can be stored under sterile conditions at 2 - 8°C for one month, or at -20°C to -70°C (in a manual defrost freezer) for three months without detectable loss of activity.

Avoid repeated freezing and thawing.

FORMULATION

Supplied as a 0.2 µm filtered solution in 20 mM Tris and 1 M NaCl (pH 7.0).

NOTE: We recommend centrifuging the vial before opening and preparing a stock solution in the original vial in order to maximize recovery of the cytokine. Buffer volume may reduce during storage (due to sublimation), however this product is sold by mass and the amount of cytokine will remain constant.

ACTIVITY

The activity of recombinant human bFGF is monitored in a cell proliferation assay by using NR6R-3T3 fibroblasts.[2] The ED_{50} for this effect is typically 0.5 - 2.5 ng/mL.

The concentration and volume supplied will vary from lot to lot for rh bFGF (see Table 1). If your lot number differs from those shown on this PIS, please contact STEMCELL Technologies for appropriate lot-specific information.

Table 1. Lot-Specific Volumes and Cytokine Concentrations

LOT #	VOLUME	CONCENTRATION
14G58123	77.5 µL	0.326 mg/mL
14J59315	77.5 µL	0.326 mg/mL
14L60281	77.5 µL	0.326 mg/mL
15B61975	77.5 µL	0.326 mg/mL
15F64440	77.5 µL	0.326 mg/mL
15J66189	77.5 µL	0.326 mg/mL
15L67050	77.5 µL	0.326 mg/mL

REFERENCES

1. Raines EW, Ross R: Purification of human platelet-derived growth factor. Methods Enzymol 109: 749, 1985