

#9952 Store at -80°C

Basic Fibroblast Growth Factor (bFGF)

✓ 100 µl
(10 µg)

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This product is for *in vitro* research use only and is not intended for use in humans or animals.

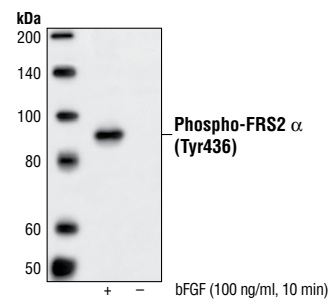
Molecular Wt.	Source	Purity
18 kDa	Human Recombinant Protein	>97%

Background: Fibroblast growth factors are a family of broad-spectrum growth factors influencing a plethora of cellular activities. The interaction of at least 23 ligands, 4 receptors and multiple coreceptors provides a dramatic complexity to a signaling system capable of effecting a multitude of responses (1,2). Basic fibroblast growth factor (bFGF or FGF2), initially identified as a mitogen with prominent angiogenic properties, is now recognized as a multi-functional growth factor (3). It is clear that bFGF produces its biological effects in target cells by signaling through cell-surface FGF receptors. bFGF binds to all four FGF receptors. Ligand binding induces receptor dimerization and autophosphorylation, allowing binding and activation of cytoplasmic downstream target proteins, including FRS2, PLC and Crk (4,5). The FGF signaling pathway appears to play a significant role not only in normal cell growth regulation but also in tumor development and progression (6).

Acidic FGF (aFGF or FGF1) is another extensively investigated protein of FGF family. aFGF shares 55% DNA sequence homology with bFGF. These two growth factors are ubiquitously expressed and exhibit a wide spectrum of similar biological activities with quantitative differences likely due to variation in receptor affinity or binding (7).

Description: The human bFGF coding cDNA was obtained from human bone marrow cell mRNA, subcloned into a prokaryotic expression vector and expressed in *E. coli*. The recombinant human bFGF protein was purified and stored in PBS buffer containing 0.1%BSA.

Concentration and Specific Activity: 100 µg/ml; the EC50 for stimulation of Balb/c 3T3 cell proliferation is 0.1-0.2 ng/ml.



Western blot analysis of extracts from NIH/3T3 cells, untreated or bFGF-stimulated (100 ng/ml for 10 minutes), using Phospho-FRS-2 α (Tyr436) Antibody.

Background References:

- (1) Powers, C.J. et al. (2000) *Endocrine-Related Cancer* 7, 165–197.
- (2) Bansal, R. (2002) *Dev. Neurosci.* 24, 35–46.
- (3) Morrison, R.S. et al. (1994) *J. Neurooncol.* 18, 207–216.
- (4) Kouhara, H. et al. (1997) *Cell* 89, 693–702.
- (5) Mohammadi, M. et al. (1991) *Mol. Cell. Biol.* 11, 5068–5078.
- (6) Bikfalvi, A. (1995) *Eur. J. Cancer* 31A, 1101–1104.
- (7) Ledoux, D. et al. (1992) *Prog. Growth Factor Res.* 4, 107–120.

Storage: Basic fibroblast growth factor (bFGF) is supplied as a solution. It should be stored at -80°C. Aliquot the reagent upon receipt and avoid repeated freeze-thaw cycles. CST recommends using 50-100 ng/ml for stimulation of bFGF signaling.

Companion Products:

- Phospho-FRS2-α (Tyr436) Antibody #3861
- Phospho-CREB (Ser133) Antibody #9191
- Phospho-Akt (Ser473) Antibody #9271