

Technical Bulletin

StableCell™ FGF2 Human, Recombinant

ST1400

Product Description

Fibroblast growth factors (FGFs) is a large family of heparin binding proteins that are involved in many biological functions. FGF2 is a pleiotropic signaling molecule involved in several biological processes including angiogenesis, embryonic development (brain, limb, lung, heart, muscle, bone, blood, eye and skin) and wound healing.¹

FGF2 binds and activates FGF receptors (FGFRs) through the RAS-mitogen activated protein kinase (MAPK) pathway to regulate cellular functions.² Overexpression of FGF2 in tumor cells or in plasma is associated with resistance to chemotherapy and survival of malignant cells. Deficiencies in FGF2 expression within the frontal cortex and hippocampus have been associated with depression, bipolar disorder and schizophrenia.³

FGF2 is critical growth factor for maintaining, expanding and differentiating diverse types of cells in culture. Native FGF2 are not thermally stable requiring frequent replenishment of media supplemented with FGF2 to maintain viability and cell growth. This, however, exposes the cells to stress due to fluctuation of FGF2 concentrations in the growth media.^{4,5} StableCell™ FGF2 is a bioactive thermal stable protein engineered for improved stability in standard cell culture. This feature allows researchers to maintain the bioactivity of FGF2 and achieve uniform cell culture conditions.

Recombinant Human stable FGF2 is 17.6 kDa protein containing 158 amino acid residues expressed in *E. coli*.

Reagent

StableCell™ FGF2 is supplied as a 0.2 µm filtered aqueous solution in 20 mM phosphate buffer pH 7.5, 500 mM NaCl.

Storage/Stability

For long term storage, store at -20 °C. Can be safely stored at 2-8 °C for up to 4 weeks.

Product Profile

The biological activity of StableCell™ FGF2 is measured by the dose-dependent stimulation of the proliferation of the NIH/3T3 cells. The EC50 is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell-based bioassay.

References

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3. MacFarlane, L.A. et al., Atlas Genet Cytogenet Oncol Haematol, (2010).
4. Chen, G., et al., Stem cells, 30, 623 (2012).
5. Petit, I., et al., Sci Rep 12, 22131 (2022).

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