# Data Sheet (Cat.No.TMPY-02626)

TargetMol

## FGF-18 Protein, Human, Recombinant (His)

### General Information

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| Synonyms: | FGF-18;ZFGF5;fibroblast growth factor 18 |
| Protein Construction: | A DNA sequence encoding the human FGF18 (O76093) (Met 1-Ala 207) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Glu 28 |
| Species: | Human |
| Expression Host: | HEK293 Cells |
| Accession: | O76093 |
| Molecular Weight: | 22.3 kDa (predicted); 32 kDa (reducing condition, due to glycosylation) |

### QC Testing

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| Biological Activity: | 1. Measured by its binding ability in a functional ELISA.<br>2. Immobilized human FGF18 at 10 μg/mL (100 μl/well) can bind Rat FGFR4 , The EC50 of Rat FGFR4 is 1.17 μg/mL. |
| Purity: | > 92 % as determined by SDS-PAGE |
| Endotoxin: | < 1.0 EU/μg of the protein as determined by the LAL method. |
| Formulation: | Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization. |

### Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Fibroblast growth factor 18 (FGF18) is a member of the fibroblast growth factor (FGF) family. FGF family members possess broad mitogenic and cell survival activities, and are involved in a variety of biological processes, including embryonic development, cell growth, morphogenesis, tissue repair, tumor growth, and invasion. It has been shown in vitro that FGF18 is able to induce neurite outgrowth in PC12 cells. Studies of the similar proteins in mouse

and chick suggested that this protein is a pleiotropic growth factor that stimulates proliferation in a number of tissues, most notably the liver and small intestine. Experiment datas identified FGF18 as a selective ligand for FGFR3 in limb bud mesenchymal cells, which suppressed proliferation and promoted their differentiation and production of cartilage matrix. FGF18 appears to regulate cell proliferation and differentiation positively in osteogenesis and negatively in chondrogenesis.

Reference

Ohbayashi N,et al.(2002) FGF18 is required for normal cell proliferation and differentiation during osteogenesis and chondrogenesis. Genes Dev. 16(7): 870-9.

Davidson D,et al.(2005) Fibroblast growth factor (FGF) 18 signals through FGF receptor 3 to promote chondrogenesis. J Biol Chem. 280(21): 20509-15.

Liu Z,et al.(2007) FGF18 is required for early chondrocyte proliferation, hypertrophy and vascular invasion of the growth plate. Dev Biol. 302(1): 80-91.