

Store at
-20C
#53943

Human FGF-4 Recombinant Protein

25 µg

**Orders:** 877-616-CELL (2355)
orders@cellsignal.com**Support:** 877-678-TECH (8324)**Web:** info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

MW (kDa):	UniProt ID:	Entrez-Gene Id:
19.4	#P08620	2249
Background	FGF-4 is a member of the large and diverse fibroblast growth factor (FGF) family of peptide growth factors. FGF-4 functions as a signaling molecule that is involved in many important processes (1,2). FGF-4 binds to FGFR1 and is required for cardiac gene expression, particularly during second heart field (SHF) proliferation and chamber formation in cooperation with the Sonic hedgehog gene (<i>Shh</i>) during heart development (3,4). FGF-4 knockout mice showed developmental defects in embryos thus suggesting that FGF-4 facilitates survival and growth of the inner cell mass during the postimplantation phase of development (1). Since FGFs are involved in gastrointestinal development, upregulation of FGF-4 in pluripotent stem cells has been used to direct their differentiation for the generation of intestinal organoids <i>in vitro</i> (5).	
Endotoxin	Endotoxin levels are less than or equal to 1 EU / 1 µg hFGF-4.	
Purity	A greater than or equal to 95% purity was determined by SDS-PAGE.	
Source / Purification	Recombinant human FGF-4 was expressed in <i>E. coli</i> and is supplied in a lyophilized form.	
Bioactivity	The bioactivity of recombinant hFGF-4 was determined in an NR6R-3T3 cell proliferation assay. The ED ₅₀ of each lot is less than or equal to 5 ng/mL.	
Background References	<ol style="list-style-type: none"> 1. Feldman, B. et al. (1995) <i>Science</i> 267, 246-9. 2. Yuan, H. et al. (1995) <i>Genes Dev</i> 9, 2635-45. 3. Powers, C.J. et al. (2000) <i>Endocr Relat Cancer</i> 7, 165-97. 4. Dell'Era, P. et al. (2003) <i>Circ Res</i> 93, 414-20. 5. Lancaster, M.A. and Knoblich, J.A. (2014) <i>Science</i> 345, 1247125. 	

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.

