

## Recombinant Human IGF-I (Insulin-like Growth Factor-I)

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### Product Description

The IGFs are mitogenic, polypeptide growth factors that stimulate the proliferation and survival of various cell types, including muscle, bone, and cartilage tissue *in vitro*. IGFs are predominantly produced by the liver, although a variety of tissues produce the IGFs at distinctive times. The IGFs belong to the Insulin gene family, which also contains insulin and relaxin. The IGFs are similar to insulin by structure and function, but have a much higher growth-promoting activity than insulin. IGF-II expression is influenced by placenta lactogen, while IGF-I expression is regulated by growth hormone. Both IGF-I and IGF-II signal through the tyrosine kinase type I receptor (IGF-IR), but IGF-II can also signal through the IGF-II/Mannose-6-phosphate receptor. Mature IGFs are generated by proteolytic processing of inactive precursor proteins, which contain N-terminal and C-terminal propeptide regions. Recombinant Human IGF-I and IGF-II are globular proteins containing 70 and 67 amino acids, respectively, and 3 intra-molecular disulfide bonds.

### Typical Specifications

<b>Species</b>	Human
<b>Expression</b>	E. coli Cell Expressed
<b>Activity</b>	Typically $\leq 2.0$ ng/mL ED <sub>50</sub>
<b>Purity</b>	>98%
<b>Endotoxin</b>	<1.0 EU/ $\mu$ g
<b>Molecular Mass</b>	7.6 kDa
<b>Country of Origin</b>	USA

### Purity Confirmation

This was determined by SDS-PAGE gel and HPLC analysis.

### Activity Assay

Determined by a cell proliferation assay using FDC-P1 cells.

### AA Sequence

GPETLCGAEL    VDALQFVCGD    RGFYFNKPTG  
YGSSRRAPQ    TGIVDECCFR    SCDLRRLEMY  
CAPLKPAKSA

### Reconstitution Buffer

Centrifuge the vial prior to opening.  
Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex.

### Storage

For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% HSA) and store in working aliquots at -20°C to -80°C.

#### Limited Use and Restrictions

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