

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

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

Species	Human
Expression	E. coli Cell Expressed
Activity	Typically ≤ 2.0 ng/mL ED ₅₀
Purity	>98%
Endotoxin	<1.0 EU/ μ g
Molecular Mass	7.6 kDa
Country of Origin	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

Unless otherwise stated in our catalog or other company documentation accompanying the product, products sold by HumanZyme, Inc. are intended for research use only and are not to be used for any other purpose, which includes but is not limited to, unauthorized commercial uses, including resale or use in manufacture, *in vitro* diagnostic uses, *ex vivo* or *in vivo* therapeutic uses or any type of consumption or application to humans or animals. For a complete statement of this Limited Use License and its application to drug discovery and diagnostic research, please visit www.humanzyme.com.