

## Analytical Data Sheet

Lot number	<b>9037183</b> not for drug use
Item number	<b>4030639.0050</b>
Product number	<b>H-7020</b>
Product	rec IGF-II (1-67) (human)
Molecular formula	<b>C<sub>321</sub>H<sub>499</sub>N<sub>93</sub>O<sub>101</sub>S<sub>6</sub></b>
Relative molecular mass	<b>7469.46</b>

**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. The calculated molecular weight of Recombinant Human IGF-II is 7.5 kDa.

**Sequence:** AYRPSETLCG GELVDTLQFV CGDRGFYFSR PASRVSRRSR GIVEECCFRS CDLALLETYC ATPAKSE

**Source:** E.coli

**Purity:** ≥ 98% by SDS-PAGE gel and HPLC analyses.

**Authenticity:** Verified by N-terminal and Mass Spectrometry analyses (when applicable).

**Endotoxin level:** Endotoxin level is <0.1 ng / µg of protein (<1EU/ µg)

**Protein Content:** Verified by UV Spectroscopy and/or SDS-PAGE gel.

**Biological Activity:** Determined by its ability to stimulate the proliferation of mouse FDC-P1 cells. The expected ED<sub>50</sub> is ≤ 2.0 ng/ml, corresponding to a specific activity of ≥ 5 x 10<sup>5</sup> units/mg.

**Formulation:** Sterile filtered through a 0.2 micron filter. Lyophilized with no additives.

**Reconstitution:** Centrifuge vial prior to opening. Reconstitute in water to 0.1-1.0 mg/ml. Do not vortex. Store at 22°C to 8°C for 1 week, or prepare for extended storage.

**Storage/Stability:** The lyophilized protein can be stored at -20°C to -80°C until December 2019. Stored at 4°C for 6 months. Stored at room temperature for 1 month. Reconstituted form at 2°C to 8°C for 1 week.

**Extended storage:** It is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C. Avoid repeated freeze-thaw cycles.

**Usage:** For Research Use Only. Not for human use.