Revision 1

#5238 Store at -20C

Human Insulin-like Growth Factor II (hIGF-II)

Cell Signaling TECHNOLOGY®

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MW (kDa):	UniProt ID:	Entrez-Gene Id:
6	#P01344	3481

Background

IGF-II is a potent cellular mitogen that is closely related to IGF-I (1). IGF-II is primarily produced by the liver and is frequently overexpressed in tumors (1,2). IGF-II binds to the IGF-IR, activating the AKT, mTOR, ERK, and JNK pathways (1). IGF-II signaling is regulated by several distinct mechanisms. First, IGF binding proteins (IGFBPs) bind to IGF-II and block interactions with the IGF-IR (1-3). Second, the IGF-IIR, binds to and acts as a molecular trap for IGF-II (1-3). Lastly, the IGF2 gene is an imprinted gene, and loss of imprinting leads to increased IGF-II levels (1-3). Aberrant levels of IGF-II are associated with Wilms tumor, Beckwith-Wiedmann syndrome, and colorectal cancer (1,2).

Endotoxin

Less than 0.01 ng endotoxin/1 µg hIGF-II.

Purity

>98% as determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hIGF-II. All lots are greater than 98% pure.

Source / Purification

Recombinant human IGF-II (hIGF-II) Ala25-Glu94 (Accession # P01344-2) was produced in *E. coli* at Cell Signaling Technology.

Bioactivity

The bioactivity of recombinant hIGF-II was determined in a cell proliferation assay using primary human dermal fibroblasts. The ED_{50} of each lot is between 10-20 ng/ml.

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Background References

1. Chitnis, M.M. et al. (2008) *Clin Cancer Res* 14, 6364-70.
2. Pollak, M. (2008) *Nat Rev Cancer* 8, 915-28.
3. Sullivan, K.A. et al. (2008) *Endocrinology* 149, 5963-71.

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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