

Store at
-20°C

#25690

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



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For Research Use Only. Not For Use In Diagnostic Procedures.

Molecular Wt.
7 kDa

Source
Human Recombinant Protein
expressed in *E. coli*

Purity
> 95%

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).

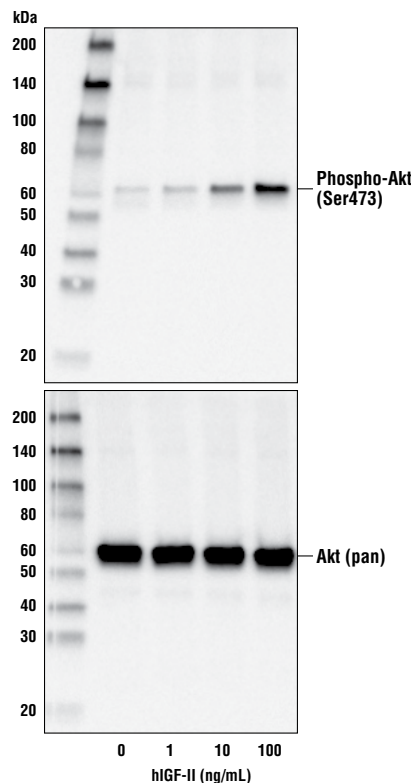
Background References:

- (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.

Source/Purification: Recombinant human IGF-II was expressed in *E. coli* and is supplied in a lyophilized form. A greater than 95% purity was determined by SDS-PAGE. Endotoxin levels are less than or equal to 1 EU / 1 µg hIGF-II.

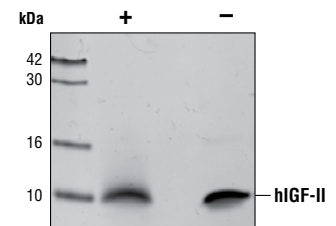
Directions For Use: Working concentration of hIGF-II generally ranges from 1-100 ng/ml.

Activity: The bioactivity of recombinant hIGF-II was determined in a cell proliferation assay using FDC-P1 cells. The ED₅₀ of each lot is between 10-20 ng/ml.

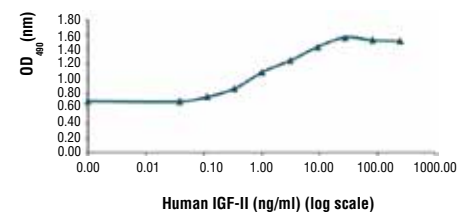


Western blot analysis of extracts from NIH/3T3 cells untreated or treated with hIGF-II for 10 minutes, using Phospho-Akt (Ser473) (D9E) XP[®] Rabbit mAb #4060 (upper) and Akt (pan) (C67E7) Rabbit mAb #4691 (lower).

Storage: Recombinant human IGF-II is supplied as lyophilized material that is very stable at -20°C. It is recommended to reconstitute with sterile water at a concentration of 0.1 mg/ml which can be further diluted in aqueous solutions as needed. Addition of a carrier protein (0.1% HSA or BSA) is recommended for long term storage.



The purity of recombinant hIGF-II was determined by SDS-PAGE of 1.5 µg reduced (+) and non-reduced (-) recombinant hIGF-II and staining overnight with Coomassie Blue.



FDC-P1 cells were cultured with 0 to 250 ng/mL of hIGF-II. Cell proliferation was assessed after 48 hours by measuring OD₄₉₀.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.