

IGF-II (8H1): sc-293176

BACKGROUND

The Insulin gene family, comprised of Insulin, relaxin and Insulin-like growth factors I and II (IGF-I and IGF-II), represents a group of structurally related polypeptides whose biological functions have diverged. The IGFs, or somatomedins, constitute a class of polypeptides that have a key role in preadolescent mammalian growth. IGF-I and -II are critical regulators of cell proliferation and differentiation. Most of the growth promoting properties of both ligands are mediated by the IGF-I receptor (IGF-IR). IGF-I and -II, respectively known as somatomedin C and somatomedin A, are single chain polypeptides which share an amino acid sequence homology of about 47% with Insulin. IGF-I expression is regulated by growth hormone and mediates postnatal growth, while IGF-II is induced by placental lactogen during prenatal development. IGF-II is a fetal growth factor, influenced by placental lactogen and abundantly expressed by placental trophoblasts. IGF-II and IGF-binding protein 1 (IGFBP1) gene variants are associated with overfeeding-induced metabolic changes. The human IGF-II gene maps to chromosome 11p15.5, encoding a 180 amino acid protein which is the precursor to IGF-II.

REFERENCES

- Bell, G.I., et al. 1984. Sequence of a cDNA clone encoding human preproinsulin-like growth factor II. *Nature* 310: 775-777.
- Dull, T.J., et al. 1984. Insulin-like growth factor II precursor gene organization in relation to Insulin gene family. *Nature* 310: 777-781.
- Raizis, A.M., et al. 1993. Structural analysis of the human Insulin-like growth factor II P3 promoter. *Biochem. J.* 289: 133-139.
- Ukkola, O., et al. 2001. Insulin-like growth factor II (IGF-II) and IGF-binding protein 1 (IGFBP1) gene variants are associated with overfeeding-induced metabolic changes. *Diabetologia* 44: 2231-2236.
- Aro, A.L., et al. 2002. Expression of Insulin-like growth factors IGF-I and IGF-II and their receptors during the growth and megakaryocytic differentiation of K562 cells. *Leuk. Res.* 26: 831-837.
- Pedersen, S.K., et al. 2002. Human Insulin-like growth factor II leader 2 mediates internal initiation of translation. *Biochem. J.* 363: 37-44.

CHROMOSOMAL LOCATION

Genetic locus: IGF2 (human) mapping to 11p15.5.

SOURCE

IGF-II (8H1) is a mouse monoclonal antibody raised against amino acids 25-180 of IGF-II of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

IGF-II (8H1) is recommended for detection of IGF-II of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

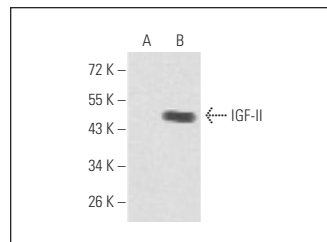
Suitable for use as control antibody for IGF-II siRNA (h): sc-39576, IGF-II shRNA Plasmid (h): sc-39576-SH and IGF-II shRNA (h) Lentiviral Particles: sc-39576-V.

Molecular Weight of IGF-II precursor: 23 kDa.

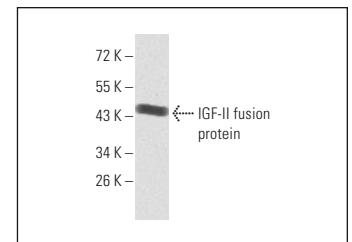
Molecular Weight of mature secreted IGF-II: 8 kDa.

Positive Controls: human IGF-II (25-180)-hlgGfC transfected HEK293 whole cell lysate.

DATA



IGF-II (8H1): sc-293176. Western blot analysis of IGF-II expression in non-transfected (A) and human IGF-II (25-180)-hlgGfC transfected (B) HEK293 whole cell lysates.



IGF-II (8H1): sc-293176. Western blot analysis of human recombinant IGF-II (25-180) fusion protein.

SELECT PRODUCT CITATIONS

- Tang, S.S., et al. 2018. ER α and/or ER β activation ameliorates cognitive impairment, neurogenesis and apoptosis in type 2 diabetes mellitus mice. *Exp. Neurol.* 311: 33-43.
- Wang, Q., et al. 2018. Long non-coding RNA HOTTIP promotes renal cell carcinoma progression through the regulation of the miR-615/IGF-2 pathway. *Int. J. Oncol.* 53: 2278-2288.
- Valadez-Bustos, N., et al. 2019. Oral administration of microencapsulated *B. Longum* BAA-999 and lycopene modulates IGF-1/IGF-1R/IGFBP3 protein expressions in a colorectal murine model. *Int. J. Mol. Sci.* 20: 4275.
- Gui, W., et al. 2021. Knockdown of Insulin-like growth factor 2 gene disrupts mitochondrial functions in the liver. *J. Mol. Cell Biol.* E-published.

RESEARCH USE

For research use only, not for use in diagnostic procedures.