

# IGF-II (H-103): sc-5622

## BACKGROUND

The Insulin gene family, comprises Insulin, relaxin, Insulin-like growth factors I and II (IGF-I and IGF-II), and 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 pre-adolescent mammalian growth. IGF-I and II are critical regulators of cell proliferation and differentiation and most of the growth promoting properties of both ligands are mediated by the IGF-I receptor (IGF-IR). IGF-I and -II, also known as somatomedin C and somatomedin A, respectively, 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 and encodes a 180-amino acid protein which is the precursor to IGF-II.

## REFERENCES

1. Bell, G.I., et al. 1984. Sequence of a cDNA clone encoding human preproinsulin-like growth factor II. *Nature* 310: 775-777.
2. Dull, T.J., et al. 1984. Insulin-like growth factor II precursor gene organization in relation to Insulin gene family. *Nature* 310: 777-781.
3. Raizis, A.M., et al. 1993. Structural analysis of the human insulin-like growth factor-II P3 promoter. *Biochem. J.* 289: 133-139.
4. Ukkola, O., et al. 2001. Insulin-like growth factor 2 (IGF2) and IGF-binding protein 1 (IGFBP1) gene variants are associated with overfeeding-induced metabolic changes. *Diabetologia* 44: 2231-2236.
5. 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.
6. 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; Igf2 (mouse) mapping to 7 F5.

## SOURCE

IGF-II (H-103) is a rabbit polyclonal antibody raised against amino acids 78-180 of IGF-II of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of 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 (H-103) is recommended for detection of IGF-II of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IGF-II (H-103) is also recommended for detection of IGF-II in additional species, including canine and porcine.

Suitable for use as control antibody for IGF-II siRNA (h): sc-39576, IGF-II siRNA (m): sc-39577, IGF-II shRNA Plasmid (h): sc-39576-SH, IGF-II shRNA Plasmid (m): sc-39577-SH, IGF-II shRNA (h) Lentiviral Particles: sc-39576-V and IGF-II shRNA (m) Lentiviral Particles: sc-39577-V.

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

Molecular Weight of IGF-II precursor: 23 kDa.

## SELECT PRODUCT CITATIONS

1. Korshunov, A., et al. 2003. Gene expression patterns in ependymomas correlate with tumor location, grade, and patient age. *Am. J. Pathol.* 163: 1721-1727.
2. Kaur, C., et al. 2006. Insulin-like growth factor I and II expression and modulation in amoeboid microglial cells by lipopolysaccharide and retinoic acid. *Neuroscience* 138: 1233-1244.
3. Chagin, A.S., et al. 2006. Locally produced estrogen promotes fetal rat metatarsal bone growth; an effect mediated through increased chondrocyte proliferation and decreased apoptosis. *J. Endocrinol.* 188: 193-203.
4. Cosaceanu, D., et al. 2007. Ionizing radiation activates IGF-IR triggering a cytoprotective signaling by interfering with Ku-DNA binding and by modulating Ku-86 expression via a p38 kinase-dependent mechanism. *Oncogene* 26: 2423-2434.
5. Berensztein, E.B., et al. 2008. Role of IGFs and insulin in the human testis during postnatal activation: differentiation of steroidogenic cells. *Pediatr. Res.* 63: 662-666.
6. Fu, V.X., et al. 2008. Aging and cancer-related loss of insulin-like growth factor 2 imprinting in the mouse and human prostate. *Cancer Res.* 68: 6797-6802.
7. Ewald, J., et al. 2008. Drug-induced senescence bystander proliferation in prostate cancer cells in vitro and in vivo. *Br. J. Cancer* 98: 1244-1249.

## RESEARCH USE

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



Try **IGF-II (8H1): sc-293176**, our highly recommended monoclonal alternative to IGF-II (H-103).