

# INSL3 (M-122): sc-134587

## BACKGROUND

Insulin-like factor 3 (INSL3), also designated Leydig Insulin-like peptide (Ley IL) and Relaxin-like factor (RLF), is a peptide hormone in the Relaxin family which is secreted from the testicular Leydig cells and ovarian theca interna cells. INSL3 is involved in gonadal and other physiological processes. Structurally similar to relaxin and Insulin, INSL3 differs from the two in that it signals through a G protein-coupled receptor, LGR8. INSL3/LGR8 signaling is involved in gubernaculum development and transabdominal testicular descent during development. Abnormal INSL3 production or action by the fetal testis causes cryptorchidism, a developmental defect of the urogenital tract in human males wherein the testis do not descend into the scrotum during embryonic development. Infertility and the development of germ-cell tumors are two potential risks for individuals with cryptorchidism.

## REFERENCES

1. Nef, S. and Parada, L.F. 1999. Cryptorchidism in mice mutant for INSL3. *Nat. Genet.* 22: 295-299.
2. Kumagai, J., et al. 2002. INSL3/Leydig Insulin-like peptide activates the LGR8 receptor testis descent. *J. Biol. Chem.* 277: 31283-31286.
3. Ferlin, A., et al. 2003. The INSL3-LGR8/GREAT ligand-receptor pair in human cryptorchidism. *J. Clin. Endocrinol. Metab.* 88: 4273-4279.
4. McKinnell, C., et al. 2005. Expression of Insulin-like factor 3 protein in the rat testis during fetal and postnatal development and in relation to cryptorchidism induced by *in utero* exposure to di (n-Butyl) phthalate. *Endocrinology* 146: 4536-4544.
5. Klonsch, T., et al. 2005. INSL3 in the benign hyperplastic and neoplastic human prostate gland. *Int. J. Oncol.* 27: 307-315.
6. Sadeghian, H., et al. 2005. Constitutive regulation of the INSL3 gene in rat Leydig cells. *Mol. Cell. Endocrinol.* 241: 10-20.
7. Ivell, R., et al. 2005. Insulin-like factor 3: where are we now? *Ann. N.Y. Acad. Sci.* 1041: 486-496.
8. Shen, P.J., et al. 2005. Restricted expression of LGR8 in intralaminar thalamic nuclei of rat brain suggests a role in sensorimotor systems. *Ann. N.Y. Acad. Sci.* 1041: 510-515.
9. Fu, P., et al. 2005. Detection, localization, and action of the INSL3 receptor, LGR8, in rat kidney. *Ann. N.Y. Acad. Sci.* 1041: 516-519.

## CHROMOSOMAL LOCATION

Genetic locus: *Insl3* (mouse) mapping to 8 B3.3.

## SOURCE

INSL3 (M-122) is a rabbit polyclonal antibody raised against amino acids 1-122 representing full length INSL3 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

INSL3 (M-122) is recommended for detection of INSL3 of mouse and rat 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).

Molecular Weight of INSL3: 7 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Weisser, J., et al. 2011. Steroidogenesis and steroidogenic gene expression in postnatal fetal rat Leydig cells. *Mol. Cell. Endocrinol.* 341: 18-24.
2. Ricci, G., et al. 2012. Hepatocyte growth factor is a mouse fetal leydig cell terminal differentiation factor. *Biol. Reprod.* 87: 146.
3. Mendoza-Villarreal, R.E., et al. 2014. The INSL3 gene is a direct target for the orphan nuclear receptor, COUP-TFII, in Leydig cells. *J. Mol. Endocrinol.* 53: 43-55.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.