

Placental lactogen I/II (E-13): sc-34709

BACKGROUND

Placental lactogens, also referred to as chorionic somatomammotropin hormones, are protein hormones. They are produced in the mammalian placenta and are similar in structure and function to growth hormones. Together, placental lactogens and growth factors play an essential role to assure successful lactation after pregnancy. Placental lactogens also modify the metabolic state of the mother during pregnancy to supply energy to the fetus. Placental lactogen I is a member of the somatotropin/prolactin family of hormones. The proteins in this family are crucial in mammalian growth control. Placental lactogen I is expressed primarily during mid-pregnancy, and it has been reported that DNA methylation regulates its tissue expression in rats. Placental lactogen II is expressed later in pregnancy and, in mice, its secretion is regulated the inhibitory control of GH, the concentration of which increases rapidly at the beginning of the last half of pregnancy.

REFERENCES

- Shida, M.M., et al. 1993. Trophoblast-specific transcription from the mouse Placental lactogen I gene promoter. *Mol. Endocrinol.* 7: 181-188.
- Farnsworth, R.L., et al. 1998. Calcyclin in the mouse decidua: expression and effects on placental lactogen secretion. *Biol. Reprod.* 59: 546-552.
- Cho, J.H., et al. 2001. DNA methylation regulates Placental lactogen I gene expression. *Endocrinology* 142: 3389-3396.
- Sulovic, V., et al. 2002. Placental proteins and protein hormones in high risk pregnancies. *Glas. Srp. Akad. Nauka Med.* 47: 1-19.
- Buhimschi, C.S., et al. 2004. Endocrinology of lactation. *Obstet. Gynecol. Clin. North Am.* 31: 963-979.
- Lambot, N., et al. 2005. Effect of IPs, cAMP, and cGMP on the hPL and hCG secretion from human term placenta. *Mol. Cell. Endocrinol.* 243: 80-85.
- Cozar-Castellano, I., et al. 2006. Evaluation of β cell replication in mice transgenic for hepatocyte growth factor and placental lactogen: comprehensive characterization of the G_1/S regulatory proteins reveals unique involvement of p21cip. *Diabetes* 55: 70-77.
- Molinari, C., et al. 2006. The role of nitric oxide in the peripheral vasoconstriction caused by human placental lactogen in anaesthetized pigs. *Exp. Physiol.* 91: 603-610.
- Christiansen, M., et al. 2007. Human placental lactogen is a first-trimester maternal serum marker of Down syndrome. *Prenat. Diagn.* 27: 1-5.

CHROMOSOMAL LOCATION

Genetic locus: CSHL1 (human) mapping to 17q24.2; Csh1 (mouse) mapping to 13 A3.1.

SOURCE

Placental lactogen I/II (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Placental lactogen I of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-34709 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Placental lactogen I/II (E-13) is recommended for detection of Placental lactogen I and Placental lactogen II of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); also recommended for detection of CSHL1.

Molecular Weight of Placental lactogen I/II: 26 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.