

Choriogonadotropin (5F10): sc-80469

BACKGROUND

Choriogonadotropin is a hormone produced by the placenta in the first trimester of pregnancy and exists as a heterodimer formed from a unique β chain and an α chain common to all gonadotropins. The unique β chain confers biological specificity to Choriogonadotropin, luteinizing hormone and follicle stimulating hormone. The secreted α subunit maps to human chromosome 6 and the β subunit of choriogonadotropin maps to human chromosome 19. Choriogonadotropin stimulates the ovaries to produce and maintain normal levels of the steroids essential for maintaining pregnancy, including estrogen and progesterone. Choriogonadotropin is a member of the cystine knot growth-factor superfamily, a group of proteins that contain a distinct arrangement of six cysteine residues and are expressed in placenta. The proper secretion and dimerization of Choriogonadotropin depends on the conformation of the cystine knot, although biological activity is independent of this conformation.

REFERENCES

1. Naylor, S.L., et al. 1983. Chromosome assignment of the genes encoding the α and β subunits of the glycoprotein hormones in man and mouse. *Somatic Cell Genet.* 9: 757-770.
2. Laphorn, A.J., et al. 1994. Crystal structure of human chorionic Gonadotropin. *Nature* 369: 455-461.
3. Furuhashi, M., et al. 1994. Mutagenesis of cysteine residues in the human Gonadotropin α subunit. Roles of individual disulfide bonds in secretion, assembly, and biologic activity. *J. Biol. Chem.* 269: 25543-25548.
4. Sun, P.D., et al. 1995. The cystine-knot growth-factor superfamily. *Annu. Rev. Biophys. Biomol. Struct.* 24: 269-291.
5. Furuhashi, M., et al. 1996. Disulfide bonds 7-31 and 59-87 of the α subunit play a different role in assembly of human chorionic Gonadotropin and Lutropin. *Endocrinology* 137: 4196-4200.
6. Sato, A., et al. 1997. Cystine knot of the Gonadotropin α subunit is critical for intracellular behavior but not for *in vitro* biological activity. *J. Biol. Chem.* 272: 18098-18103.
7. Lustbader, J.W., et al. 1998. Structural and molecular studies of human chorionic Gonadotropin and its receptor. *Recent Prog. Horm. Res.* 53: 395-424.
8. Vaananen, J.E., et al. 1998. Regulation of prostaglandin F $_{2\alpha}$ -receptor mRNA in human granulosa-luteal cells by human chorionic Gonadotropin and prostaglandin. *Endocrine* 8: 261-267.

CHROMOSOMAL LOCATION

Genetic locus: CGB (human) mapping to 19q13.33.

SOURCE

Choriogonadotropin (5F10) is a mouse monoclonal antibody raised against Choriogonadotropin isolated from urine of women in early pregnancy.

RESEARCH USE

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

PRODUCT

Each vial contains 100 μ g IgG $_1$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Choriogonadotropin (5F10) is recommended for detection of Choriogonadotropin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000); non cross-reactive with isolated Choriogonadotropin β or Gonadotropin α .

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.