

## pan GnRH (302): sc-66044

### BACKGROUND

Human reproduction is controlled by the hypothalamic-pituitary gonadal axis laid down early in fetal development. Luteinizing hormone releasing hormone (LHRH), also known as gonadotropin releasing hormone (GnRH), luteinizing hormone releasing hormone (LHRH), lutiberin, gonadorelin or GnRH-associated peptide, is a decapeptide that is an important molecule in the hypothalamic-pituitary-gonadal axis control circuit. GnRH is produced by hypothalamic neurons and secreted in a pulsatile manner into the capillary plexus of the median eminence. GnRH affects the release of luteinizing hormone and follicle stimulating hormone from gonadotropic cells in the anterior pituitary. GnRH is expressed in the acrosomal region of human sperm and in the anterior pituitary tissue and cancer cells. GnRH binds to a specific G protein-coupled receptor in the pituitary to regulate synthesis and secretion of gonadotropins.

### REFERENCES

1. Seeburg, P.H. and Adelman, J.P. 1984. Characterization of cDNA for precursor of human luteinizing hormone releasing hormone. *Nature* 311: 666-668.
2. Grosse, R., et al. 1997. Inhibition of gonadotropin-releasing hormone receptor signaling by expression of a splice variant of the human receptor. *Mol. Endocrinol.* 11: 1305-1318.
3. White, R.B., et al. 1998. Second gene for gonadotropin-releasing hormone in humans. *Proc. Natl. Acad. Sci. USA* 95: 305-309.
4. Goto, T., et al. 1999. Gonadotropin-releasing hormone agonist has the ability to induce increased matrix metalloproteinase (MMP)-2 and membrane type 1-MMP expression in corpora lutea and structural luteolysis in rats. *J. Endocrinol.* 161: 393-402.
5. Lee, C.Y., et al. 2000. Immunoidentification of gonadotropin releasing hormone receptor in human sperm, pituitary and cancer cells. *Am. J. Reprod. Immunol.* 44: 170-177.
6. Maudsley, S., et al. 2004. Gonadotropin-releasing hormone (GnRH) antagonists promote proapoptotic signaling in peripheral reproductive tumor cells by activating a G $\alpha$  coupling state of the type I GnRH receptor. *Cancer Res.* 64: 7533-7544.
7. Maitoko, K., et al. 2004. Gonadotropin-releasing hormone agonist inhibits estrone sulfatase expression of cystic endometriosis in the ovary. *Fertil. Steril.* 82: 322-326.
8. Fromme, B.J., et al. 2004. Pro<sup>7.33(303)</sup> of the human GnRH receptor regulates selective binding of mammalian GnRH. *Mol. Cell. Endocrinol.* 219: 47-59.
9. Enomoto, M., et al. 2004. Proliferation of TSU-Pr1, a human prostatic carcinoma cell line is stimulated by gonadotropin-releasing hormone. *Life Sci.* 74: 3141-3152.

### CHROMOSOMAL LOCATION

Genetic locus: GNRH1 (human) mapping to 8p21.2, GNRH2 (human) mapping to 20p13.

### SOURCE

pan GnRH (302) is a mouse monoclonal antibody raised against gonadotropin releasing hormone of human origin.

### PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

pan GnRH (302) is recommended for detection of all isoforms of GnRH of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of pan GnRH proform: 8 kDa.

Molecular Weight of pan GnRH pre-proform: 10 kDa

### 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](http://www.scbt.com) for detailed protocols and support products.