SANTA CRUZ BIOTECHNOLOGY, INC.

GnRH I (C-9): sc-373690

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Human reproduction is controlled by the hypothalaic-pituitary gonadal axis laid down early in fetal development. Gonadotropin releasing hormone (GnRH), also known as GnRH-associated peptide, luteinizing hormone releasing hormone (LHRH), luliberin or gonadorelin, 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 medianeminence. GnRH affects the release of lutenizing hormone and follicle stimulating hormone from gonadotropic cells in the anterior pituitary. In addition to hypothalamic GnRH (GnRH I), a second GnRH form (GnRH II) functions primarily in the midbrain. GnRH is expressed in the acrosomal region of human sperm and in the anterior pituitary tissue and cancer cells. Unlike GnRH I, GnRH II is highly expressed outside the brain, particularly in the kidney, bone marrow and prostate, suggesting that it may have multiple functions. 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.

CHROMOSOMAL LOCATION

Genetic locus: GNRH1 (human) mapping to 8p21.2.

SOURCE

GnRH I (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 43-77 within an internal region of GnRH I of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-373690 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GnRH I (C-9) is recommended for detection of GnRH I of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for GnRH I siRNA (h): sc-39542, GnRH I shRNA Plasmid (h): sc-39542-SH and GnRH I shRNA (h) Lentiviral Particles: sc-39542-V.

Molecular Weight of GnRH I pro form: 8 kDa.

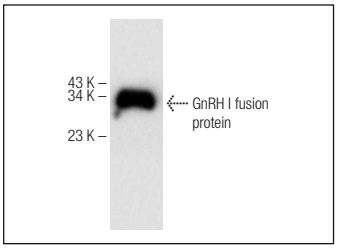
Molecular Weight of GnRH I pre-proform: 10 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GnRH I (C-9): sc-373690. Western blot analysis of human recombinant GnRH I fusion protein.

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.

CONJUGATES

See **GnRH I (A-4): sc-271918** for GnRH I antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.