SANTA CRUZ BIOTECHNOLOGY, INC.

GnRH I (A-4): sc-271918

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Human reproduction is controlled by the hypothalamic-pituitary gonadal axis laid down ealry in fetal development. Luteinizing hormone releasing hormone (LHRH), also known as gonadotropin releasing hormone (GnRH), luliberin, 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 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.

CHROMOSOMAL LOCATION

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

SOURCE

GnRH I (A-4) is a mouse monoclonal antibody raised against amino acids 1-92 representing full length Progonadoliberin I of human origin.

PRODUCT

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

GnRH I (A-4) is available conjugated to agarose (sc-271918 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271918 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271918 PE), fluorescein (sc-271918 FITC), Alexa Fluor® 488 (sc-271918 AF488), Alexa Fluor® 546 (sc-271918 AF546), Alexa Fluor® 594 (sc-271918 AF594) or Alexa Fluor® 647 (sc-271918 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271918 AF680) or Alexa Fluor® 790 (sc-271918 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

GnRH I (A-4) is recommended for detection of Progonadoliberin I precursor and Gonadoliberin I and GnRH-associated peptide I active peptides 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), immunohistochemistry (including paraffin-embedded sections) (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.

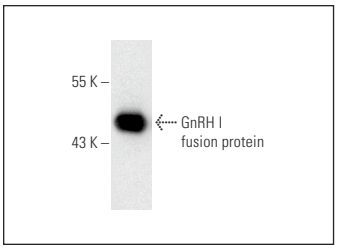
Molecular Weight of GnRH I pre-proform: 10 kDa.

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

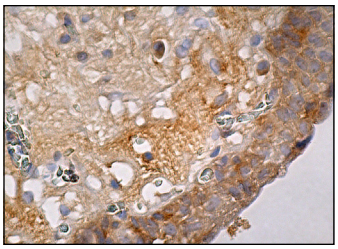
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



GnRH I (A-4): sc-271918. Western blot analysis of human recombinant GnRH I fusion protein.



GnRH I (A-4): sc-271918. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Cao, N., et al. 2021. Changes in mRNA and protein levels of gonadotropin releasing hormone and receptor in ovine thymus, lymph node, spleen, and liver during early pregnancy. Domest. Anim. Endocrinol. 76: 106607.

RESEARCH USE

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