

GnRH I (HU11B): sc-32292

BACKGROUND

Human reproduction is controlled by the hypothalamic-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 median eminence. GnRH affects the release of luteinizing 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.

CHROMOSOMAL LOCATION

Genetic locus: GNRH1 (human) mapping to 8p21.2; Gnrh1 (mouse) mapping to 14 D1.

SOURCE

GnRH I (HU11B) is a mouse monoclonal antibody raised against a synthetic peptide that represents the full length GnRH I decapeptide of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GnRH I (HU11B) is available conjugated to agarose (sc-32292 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-32292 PE), fluorescein (sc-32292 FITC), Alexa Fluor[®] 488 (sc-32292 AF488), Alexa Fluor[®] 546 (sc-32292 AF546), Alexa Fluor[®] 594 (sc-32292 AF594) or Alexa Fluor[®] 647 (sc-32292 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-32292 AF680) or Alexa Fluor[®] 790 (sc-32292 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, GnRH I (HU11B) is available conjugated to biotin (sc-32292 B), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

GnRH I (HU11B) is recommended for detection of GnRH I of mouse, rat and human origin by 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 siRNA (m): sc-39543, GnRH I shRNA Plasmid (h): sc-39542-SH, GnRH I shRNA Plasmid (m): sc-39543-SH, GnRH I shRNA (h) Lentiviral Particles: sc-39542-V and GnRH I shRNA (m) Lentiviral Particles: sc-39543-V.

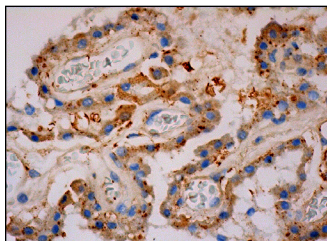
Molecular Weight of GnRH I pro form: 8 kDa.

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

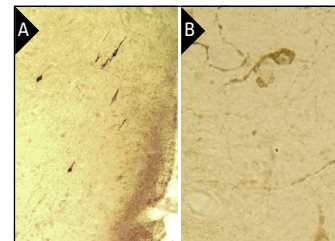
STORAGE

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

DATA



GnRH I (HU11B): sc-32292. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of endothelial cells and choroid plexus epithelial cells.



GnRH I (HU11B): sc-32292. Immunoperoxidase staining of formalin fixed, paraffin-embedded rhesus monkey hypothalamus froze tissue. Image kindly provided by Henryk F. Urbanski, Ph.D., D.Sc., Division of Neuroscience, Oregon Health and Science University (A,B).

SELECT PRODUCT CITATIONS

- Morelli, A., et al. 2008. Sex steroids and leptin regulate the "first kiss" (KISS-1/G protein-coupled receptor 54 system) in human gonadotropin-releasing-hormone-secreting neuroblasts. *J. Sex. Med.* 5: 1097-1113.
- Dickerson, S.M., et al. 2011. Endocrine disruption of brain sexual differentiation by developmental PCB exposure. *Endocrinology* 152: 581-594.
- Harrison Pitner, M.K. and Saavedra, H.I. 2013. Cdk4 and Nek2 signal binucleation and centrosome amplification in a her2+ breast cancer model. *PLoS ONE* 8: e65971.
- Cui, P., et al. 2015. Effect of estrogen on the expression of GnRH and kisspeptin in the hypothalamus of rats during puberty. *Theriogenology* 84: 1556-1564.
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- Zhu, Z., et al. 2017. *Morinda officinalis* polysaccharides stimulate hypothalamic GnRH secretion in varicocele progression. *Evid. Based Complement. Alternat. Med.* 2017: 9057959.
- Shakya, M., et al. 2018. Hindbrain 5'-adenosine monophosphate-activated protein kinase mediates short-term food deprivation inhibition of the gonadotropin-releasing hormone-luteinizing hormone axis: role of Nitric oxide. *Neuroscience* 383: 46-59.
- Zhu, Z., et al. 2019. Vasopressin regulates hypothalamic GnRH synthesis: histomorphological evidence in hypothalamus and biological effects in GT1-7 cells. *Life Sci.* 227: 166-174.

RESEARCH USE

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

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