SANTA CRUZ BIOTECHNOLOGY, INC.

GH (E-7): sc-374266

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pituitary growth hormone (GH), also designated somatotropin, plays a crucial role in stimulating and controlling the growth, metabolism and differentiation of many mammalian cell types by modulating the synthesis of multiple mRNA species. These effects are mediated by the binding of GH to its membrane-bound receptor, GHR, and involve a phosphorylation cascade that results in the modulation of numerous signaling pathways. GH is secreted in a pulsatile pattern which is tightly controlled by the interplay of GH-releasing hormone (GHRH) and somatostatin (SRIF). GHRH and SRIF are the primary hypothalamic factors that determine GH secretion from the somatotroph and regulate GH synthesis and secretory reserve. GH output is also highly sensitive to feedback control by GH itself, as well as by Insulin-like growth factor I. GH is synthesized by acidophilic or somatotropic cells of the anterior pituitary gland. Human growth hormone contains 191 amino acid residues with two disulfide bridges.

CHROMOSOMAL LOCATION

Genetic locus: GH1/GH2/CSH1/CSH2 (human) mapping to 17q23.3; Gh (mouse) mapping to 11 E1.

SOURCE

GH (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 151-189 near the C-terminus of GH of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GH (E-7) is available conjugated to agarose (sc-374266 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374266 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374266 PE), fluorescein (sc-374266 FITC), Alexa Fluor® 488 (sc-374266 AF488), Alexa Fluor® 546 (sc-374266 AF546), Alexa Fluor® 594 (sc-374266 AF594) or Alexa Fluor® 647 (sc-374266 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374266 AF680) or Alexa Fluor® 790 (sc-374266 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374266 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GH (E-7) is recommended for detection of GH-1, GH-2 and Lactogen (chorionic somatommamotropin) of mouse, rat and 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).

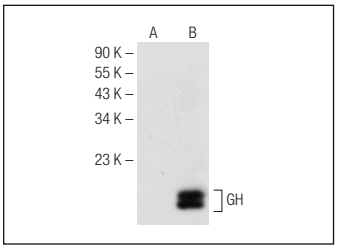
Molecular Weight of GH: 20 kDa.

Positive Controls: GH (h): 293T Lysate: sc-111489.

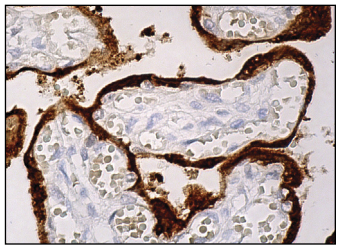
RECOMMENDED SUPPORT REAGENTS

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



GH (E-7): sc-374266. Western blot analysis of GH expression in non-transfected: sc-117752 (**A**) and human GH transfected: sc-111489 (**B**) 293T whole cell lysates.



GH (E-7): sc-374266. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells.

SELECT PRODUCT CITATIONS

1. Lan, H., et al. 2014. Differential intracellular signalling properties of the growth hormone receptor induced by the activation of an anti-GHR antibody. Mol. Cell. Endocrinol. 390: 54-64.
2. Yuan, H., et al. 2017. HPV positive neuroendocrine cervical cancer cells are dependent on Myc but not E6/E7 viral oncogenes. Sci. Rep. 7: 45617.
3. Ding, X., et al. 2019. SCP2-mediated cholesterol membrane trafficking promotes the growth of pituitary adenomas via hedgehog signaling activation. J. Exp. Clin. Cancer Res. 38: 404.
4. Cheng, Y., et al. 2020. miR-709 inhibits GHRP6 induced GH synthesis by targeting PRKCA in pituitary. Mol. Cell. Endocrinol. 506: 110763.
5. Cheng, Y., et al. 2020. Pituitary miRNAs target GHRHR splice variants to regulate GH synthesis by mediating different intracellular signaling pathways. RNA Biol. E-published.

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.