SANTA CRUZ BIOTECHNOLOGY, INC.

GH (hBA-192): sc-4621

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 may be involved in gastrointestinal tract tumors, cellular growth kinetics and tumor prognosis. 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.

REFERENCES

1. Campbell, R.M. and Scanes, C.G. 1992. Evolution of the growth hormone-releasing factor (GRF) family of peptides. Growth Regul. 2: 175-191.
2. Amit, T., Bar-Am, O., Dastot, F., Youdim, M.B., Amselem, S., and Hochberg, Z. 1999. The human growth hormone (GH) receptor and its truncated isoform: sulfhydryl group inactivation in the study of receptor internalization and GH-binding protein generation. Endocrinol. 140: 266-272.
3. Lincoln, D.T., Kaiser, H.E., Raju, G.P., and Waters, M.J. 2000. Growth hormone and colorectal carcinoma: localization of receptors. *In Vivo* 14: 41-49.
4. Baou, N., Bouras, M., Droz, J.P., Benahmed, M., and Krantic, S. 2000. Evidence for a selective loss of somatostatin receptor subtype expression in male germ cell tumors of seminoma type. Carcinogenesis 21: 805-810.
5. Robinson, I.C. 2000. Control of growth hormone (GH) release by GH secretagogues. Novartis Found. Symp. 227: 206-224.

SOURCE

GH (hBA-192) is produced in *E. coli* as 22.3 kDa biologically active protein corresponding to 192 amino acids of human GH of human origin.

PRODUCT

GH (hBA-192) is purified from bacterial lysates (>98%); supplied as 500 µg purified protein.

BIOLOGICAL ACTIVITY

GH (hBA-192) is biologically active as determined by comparison to World Health Organization (WHO) reference standard, 3 units/mg.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

RECONSTITUTION

In order to avoid freeze/thaw damaging of the active protein, dilute protein when first used to desired working concentration. Either a sterile filtered standard buffer (such as 50mM TRIS or 1X PBS) or water can be used for the dilution. Store any thawed aliquot in refrigeration at 2° C to 8° C for up to four weeks, and any frozen aliquot at -20° C to -80° C for up to one year. It is recommended that frozen aliquots be given an amount of standard cryo-preservative (such as Ethylene Glycol or Glycerol 5-20% v/v), and refrigerated samples be given an amount of carrier protein (such as heat inactivated FBS or BSA to 0.1% v/v) or non-ionic detergent (such as Triton X-100 or Tween 20 to 0.005% v/v), to aid stability during storage.

STORAGE

Store desiccated at -20° C; stable for one year from the date of shipment.