SANTA CRUZ BIOTECHNOLOGY, INC.

GSH-1 (H-41): sc-292189

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Growth hormone-releasing hormone (GHRH) stimulates secretion and synthesis of growth hormone (GH), causes somatotroph proliferation and may have direct actions in fetal/placental development, reproduction and immune function. It exerts its action through high-affinity GHRH receptors present in the anterior pituitary. GSH-1 (GS homeobox 1) is a 264 amino acid hypothalamic nuclear protein that functions as a transcription factor responsible for maintaining GHRH expression as well as playing an important role in pituitary development. Coexpression of CBP leads to significantly enhanced GSH-1-induced GHRH expression, which suggest that CBP may function as a co-activator. Knockdown of GSH-1 mRNA in mice causes a dwarf phenotype, which suggests that certain cases of familial dwarfism may be caused by a mutation of the GSH-1 gene.

REFERENCES

1. Mayo, K.E., et al. 1983. Expression-cloning and sequence of a cDNA encoding human growth hormone-releasing factor. Nature 306: 86-88.
2. Mayo, K.E., et al. 1985. Gene encoding human growth hormone-releasing factor precursor: structure, sequence, and chromosomal assignment. Proc. Natl. Acad. Sci. USA 82: 63-67.
3. Boncinelli, E., et al. 1993. Homeobox genes in the developing central nervous system. Ann. Genet. 36: 30-37.
4. Valerius, M.T., et al. 1995. GSH-1: a novel murine homeobox gene expressed in the central nervous system. Dev. Dyn. 203: 337-351.
5. Deschet, K., et al. 1998. Expression domains of the medaka *(Oryzias latipes)* Ol-GSH-1 gene are reminiscent of those of clustered and orphan homeobox genes. Dev. Genes Evol. 208: 235-244.
6. Li, H., et al. 1999. Novel strategy yields candidate GSH-1 homeobox gene targets using hypothalamus progenitor cell lines. Dev. Biol. 211: 64-76.
7. Mutsuga, N., et al. 2001. Homeobox protein GSH-1-dependent regulation of the rat GHRH gene promoter. Mol. Endocrinol. 15: 2149-2156.
8. Zeevalk, G.D., et al. 2007. Character-ization of intracellular elevation of glutathione (GSH) with glutathione monoethyl ester and GSH in brain and neuronal cultures: relevance to Parkinson's disease. Exp. Neurol. 203: 512-520.

CHROMOSOMAL LOCATION

Genetic locus: GSX1 (human) mapping to 13q12.2; Gsx1 (mouse) mapping to 5 G3.

SOURCE

GSH-1 (H-41) is a rabbit polyclonal antibody raised against amino acids 224-260 mapping near the C-terminus of GSH-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GSH-1 (H-41) is recommended for detection of GSH-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 GSH-1 siRNA (h): sc-75206, GSH-1 siRNA (m): sc-145803, GSH-1 shRNA Plasmid (h): sc-75206-SH, GSH-1 shRNA Plasmid (m): sc-145803-SH, GSH-1 shRNA (h) Lentiviral Particles: sc-75206-V and GSH-1 shRNA (m) Lentiviral Particles: sc-145803-V.

GSH-1 (H-41) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of GSH-1: 28 kDa.

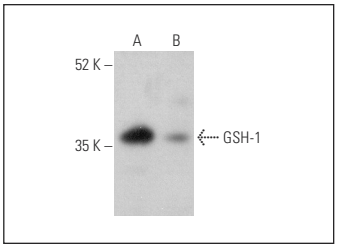
Molecular Weight (observed) of GSH-1: 34 kDa.

Positive Controls: mouse embryonic brain tissue extract, mouse hypothalamus extract: 364242 or human hypothalamus tissue extract.

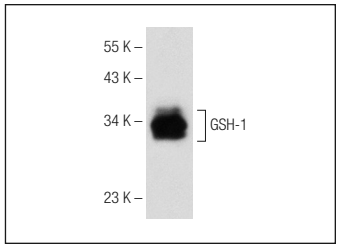
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



GSH-1 (H-41): sc-292189. Western blot analysis of GSH-1 expression in mouse hypothalamus (**A**) and human hypothalamus (**B**) tissue extracts.



GSH-1 (H-41): sc-292189. Western blot analysis of GSH-1 expression in mouse embryonic brain tissue extract.

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.