SANTA CRUZ BIOTECHNOLOGY, INC.

GCL (B-4): sc-271330

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Germ cell-less (GCL) represses transcription during the later stages of spermatogenesis both in *Drosophila* and mammalian species. GCL localizes to the nuclear envelope, where it competes with BAF to interact with emerin, a complex that is required for appropriate gene expression. Defective sperm motility as well as impaired nuclear envelope integrity in liver, pancreas and testis cells result from a lack of GCL gene expression. Thus it appears that the essential function of GCL is to facilitate normal nuclear-lamina organization, which results in normal sperm morphogenesis and chromatin remodeling.

REFERENCES

1. Kleiman, S.E., et al. 2003. Reduced human Germ cell-less (hGCL) expression in azoospermic men with severe germinal cell impairment. J. Androl. 24: 670-675.
2. Holaska, J.M., et al. 2003. Transcriptional repressor germ cell-less (GCL) and barrier to autointegration factor (BAF) compete for binding to emerin *in vitro*. J. Biol. Chem. 278: 6969-6975.
3. Kimura, T., et al. 2003. Mouse germ cell-less as an essential component for nuclear integrity. Mol. Cell. Biol. 23: 1304-1315.
4. Masuhara, M., et al. 2003. Enhanced degradation of MDM2 by a nuclear envelope component, mouse germ cell-less. Biochem. Biophys. Res. Commun. 308: 927-932.
5. Wilkinson, F.L., et al. 2003. Emerin interacts *in vitro* with the splicing-associated factor, YT521-B. Eur. J. Biochem. 270: 2459-2466.
6. Haraguchi, T., et al. 2004. Emerin binding to Btf, a death-promoting transcriptional repressor, is disrupted by a missense mutation that causes Emery-Dreifuss muscular dystrophy. Eur. J. Biochem. 271: 1035-1045.

CHROMOSOMAL LOCATION

Genetic locus: GMCL1 (human) mapping to 2p13.3.

SOURCE

GCL (B-4) is a mouse monoclonal antibody raised against amino acids 457-511 mapping near the C-terminus of GCL 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.

GCL (B-4) is available conjugated to agarose (sc-271330 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271330 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271330 PE), fluorescein (sc-271330 FITC), Alexa Fluor® 488 (sc-271330 AF488), Alexa Fluor® 546 (sc-271330 AF546), Alexa Fluor® 594 (sc-271330 AF594) or Alexa Fluor® 647 (sc-271330 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271330 AF680) or Alexa Fluor® 790 (sc-271330 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

GCL (B-4) is recommended for detection of GCL 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GCL siRNA (h): sc-72182, GCL shRNA Plasmid (h): sc-72182-SH and GCL shRNA (h) Lentiviral Particles: sc-72182-V.

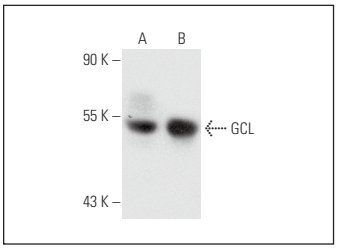
Molecular Weight of GCL: 60 kDa.

Positive Controls: SK-MEL-28 cell lysate: sc-2236, HeLa whole cell lysate: sc-2200 or Saos-2 cell lysate: sc-2235.

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.

DATA



GCL (B-4): sc-271330. Western blot analysis of GCL expression in SK-MEL-28 (**A**) and Saos-2 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Liu, D., et al. 2018. NFκB and Nrf2 pathways contribute to the protective effect of Licochalcone A on dextran sulphate sodium-induced ulcerative colitis in mice. Biomed. Pharmacother. 102: 922-929.

STORAGE

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

PROTOCOLS

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