

# GCL (L-15): sc-27689

## 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, GMCL1P1 (human) mapping to 5q35.3; Gmcl1 (mouse) mapping to 6 D1.

## SOURCE

GCL (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GCL of mouse origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-27689 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

GCL (L-15) is recommended for detection of GCL and GMCL1L of human origin and GCL of mouse and rat 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).

GCL (L-15) is also recommended for detection of GCL and GMCL1L in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GCL siRNA (m): sc-72183, GCL shRNA Plasmid (m): sc-72183-SH and GCL shRNA (m) Lentiviral Particles: sc-72183-V.

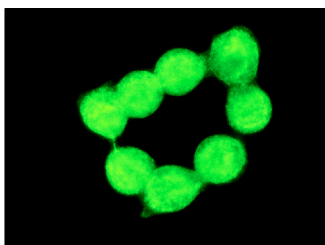
Molecular Weight of GCL: 60 kDa.

Positive Controls: human liver extract: sc-363766, HeLa whole cell lysate: sc-2200 or mouse testis extract: sc-2405.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



GCL (L-15): sc-27689. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **GCL (B-4): sc-271330**, our highly recommended monoclonal alternative to GCL (L-15).