

γ -GCSc (h): 293T Lysate: sc-115522

BACKGROUND

The GCLC gene consists of 16 exons and encodes the 636 amino acid protein γ -GCSc (γ -glutamylcysteine synthetase heavy subunit), also designated γ -L-glutamate-L-cysteine ligase catalytic subunit (GLCLC). γ -GCSc is expressed in hemocytes, brain, liver and kidney. γ -GCSc associates with a regulatory or modifier subunit, γ -GCSm (γ -glutamylcysteine synthetase light subunit), to form a heterodimer, γ -GCS. γ -GCS is the first enzyme involved and the rate determining step in glutathione biosynthesis. Oxidants, cadmium and methyl mercury upregulate the transcription of γ -GCS. H_2O_2 regulation depends on the Yap1 protein and the presence of glutamate, glutamine and lysine. Cadmium regulates transcription through proteins Met-4, Met-31 and Met-32. Cbf1, a DNA binding protein, inhibits transcription of γ -GCS. Chemopreventive compounds cause increased levels of γ -GCSc in kidney tissues, which may protect against chemically induced carcinogenesis. A His370Leu amino acid change in γ -GCSc causes deficiencies in activity which are responsible for hemolytic anemia and low red blood cell glutathione levels.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: GCLC (human) mapping to 6p12.1.

PRODUCT

γ -GCSc (h): 293T Lysate represents a lysate of human γ -GCSc transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

γ -GCSc (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive γ -GCSc antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

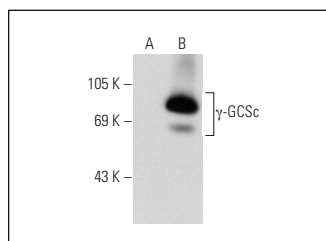
γ -GCSc (G-12): sc-166345 is recommended as a positive control antibody for Western Blot analysis of enhanced human γ -GCSc expression in γ -GCSc transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

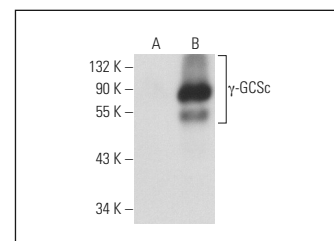
To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



γ -GCSc (G-12): sc-166345. Western blot analysis of γ -GCSc expression in non-transfected: sc-117752 (A) and human γ -GCSc transfected: sc-115522 (B) 293T whole cell lysates.



γ -GCSc (F-9): sc-166356. Western blot analysis of γ -GCSc expression in non-transfected: sc-117752 (A) and human γ -GCSc transfected: sc-115522 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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