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γ -GCSc (m): 293T Lysate: sc-120458

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 -GCScm (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 His 370-Leu 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* (mouse) mapping to 9 E1.

PRODUCT

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

APPLICATIONS

γ -GCSc (m): 293T Lysate is suitable as a Western Blotting positive control for mouse 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.

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.