

Glyoxalase I (6F10): sc-101537

BACKGROUND

The glyoxal pathway plays a role in the detoxification of glucose degradation products (GDP). Glyoxalase I (GLO1), a member of the glyoxalase family, is effective in eliminating GDP. Overexpression or silencing of Glyoxalase I in mouse brain suggests an association between Glyoxalase I and anxiety. Glyoxalase I has three isoforms generated from two alleles in the genome which forms two homodimers and one heterodimer, each subunit binding one zinc ion. Research demonstrates that GLO1 gene expression is induced in colon carcinoma. Both an Insulin response element (IRE) and a zinc metal response element (MRE) in the promoter region of the GLO1 gene have been identified.

REFERENCES

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- Krömer, S.A., et al. 2005. Identification of Glyoxalase I as a protein marker in a mouse model of extremes in trait anxiety. *J. Neurosci.* 25: 4375-4384.
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- Ariza, A., et al. 2005. Crystallization and preliminary X-ray analysis of *Leishmania major* Glyoxalase I. *Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun.* 61: 769-772.
- Ariza, A., et al. 2006. Specificity of the trypanothione-dependent *Leishmania major* Glyoxalase I: structure and biochemical comparison with the human enzyme. *Mol. Microbiol.* 59: 1239-1248.

CHROMOSOMAL LOCATION

Genetic locus: GLO1 (human) mapping to 6p21.2; Glo1 (mouse) mapping to 17 A3.3.

SOURCE

Glyoxalase I (6F10) is a rat monoclonal antibody raised against full-length Glyoxalase I of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

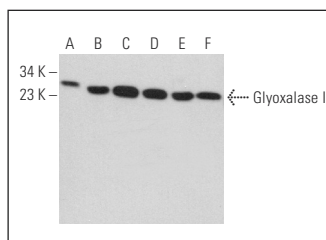
Glyoxalase I (6F10) is recommended for detection of Glyoxalase I of mouse, rat, human and monkey origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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 Glyoxalase I siRNA (h): sc-60703, Glyoxalase I siRNA (m): sc-60704, Glyoxalase I shRNA Plasmid (h): sc-60703-SH, Glyoxalase I shRNA Plasmid (m): sc-60704-SH, Glyoxalase I shRNA (h) Lentiviral Particles: sc-60703-V and Glyoxalase I shRNA (m) Lentiviral Particles: sc-60704-V.

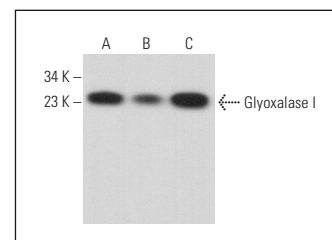
Molecular Weight of Glyoxalase I monomer: 24 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, HCT-116 whole cell lysate: sc-364175 or ALL-SIL whole cell lysate: sc-364356.

DATA



Glyoxalase I (6F10): sc-101537. Western blot analysis of Glyoxalase I expression in NIH/3T3 (A), HEK293 (B), TF-1 (C), HCT-116 (D), MOLT-4 (E) and Hep G2 (F) whole cell lysates.



Glyoxalase I (6F10): sc-101537. Western blot analysis of Glyoxalase I expression in Hep G2 (A), Jurkat (B) and ALL-SIL (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Antognelli, C., et al. 2017. Data in support of sustained upregulation of adaptive redox homeostasis mechanisms caused by KRIT1 loss-of-function. *Data Brief* 16: 929-938.
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- Cha, S.H., et al. 2019. Indole-4-carboxaldehyde isolated from seaweed, *Sargassum thunbergii*, attenuates methylglyoxal-induced hepatic inflammation. *Mar. Drugs* 17: 486.
- Truong, C.S., et al. 2019. *Psoralea corylifolia* L. Seed extract attenuates methylglyoxal-induced Insulin resistance by inhibition of advanced glycation end product formation. *Oxid. Med. Cell. Longev.* 2019: 4310319.
- Sarker, M.K., et al. 2020. Attenuation of diabetic kidney injury in DPP4-deficient rats; role of GLP-1 on the suppression of AGE formation by inducing glyoxalase 1. *Aging* 12: 593-610.

RESEARCH USE

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