

Glyoxalase II (C-6): sc-271663

BACKGROUND

The glyoxal pathway plays a role in the detoxification of glucose degradation products (GDP). Glyoxalase I and Glyoxalase II (also designated hydroxyacyl glutathione hydrolase or HAGH) are members of the glyoxalase family. The Glyoxalase II enzyme is a thiolesterase that catalyzes the hydrolysis of S-D-lactoyl-glutathione to form reduced glutathione and D-lactic acid. It exists only as a monomer and binds two zinc ions per subunit. Glyoxalase II contains 260 amino acids. It is detected in the mitochondria and cytosol of mammals. Both Glyoxalase I and Glyoxalase II are detected at a higher activity level in breast cancer tissues than with matched unaffected tissues. This suggests that glyoxalase inhibitor drugs may be effective in the treatment of cancer.

REFERENCES

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- Rulli, A., et al. 2001. Expression of Glyoxalase I and II in normal and breast cancer tissues. *Breast Cancer Res. Treat.* 66: 67-72.
- Cordell, P.A., et al. 2004. The human hydroxyacylglutathione hydrolase (HAGH) gene encodes both cytosolic and mitochondrial forms of Glyoxalase II. *J. Biol. Chem.* 279: 28653-28661.
- 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. 2006. Crystallization and preliminary X-ray analysis of *Leishmania major* Glyoxalase I. *Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun.* 61: 769-772.

CHROMOSOMAL LOCATION

Genetic locus: HAGH (human) mapping to 16p13.3; Hagh (mouse) mapping to 17 A3.3.

SOURCE

Glyoxalase II (C-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 222-250 near the C-terminus of Glyoxalase II of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271663 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Glyoxalase II (C-6) is recommended for detection of Glyoxalase II of mouse, rat and 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).

Glyoxalase II (C-6) is also recommended for detection of Glyoxalase II in additional species, including equine and canine.

Suitable for use as control antibody for Glyoxalase II siRNA (h): sc-60705, Glyoxalase II siRNA (m): sc-60706, Glyoxalase II shRNA Plasmid (h): sc-60705-SH, Glyoxalase II shRNA Plasmid (m): sc-60706-SH, Glyoxalase II shRNA (h) Lentiviral Particles: sc-60705-V and Glyoxalase II shRNA (m) Lentiviral Particles: sc-60706-V.

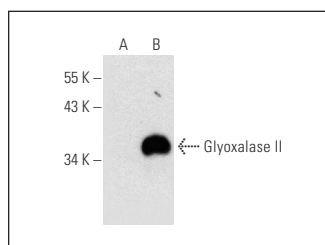
Molecular Weight of Glyoxalase II: 29 kDa.

Positive Controls: Glyoxalase II (m2): 293T Lysate: sc-120531, Hep G2 cell lysate: sc-2227 or mouse liver extract: sc-2256.

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



Glyoxalase II (C-6): sc-271663. Western blot analysis of Glyoxalase II expression in non-transfected: sc-117752 (A) and mouse Glyoxalase II transfected: sc-120531 (B) 293T whole cell lysates.

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.