

Glyoxalase II (A-11): sc-365233

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

1. Ridderström, M., et al. 1996. Molecular cloning, heterologous expression, and characterization of human Glyoxalase II. *J. Biol. Chem.* 271: 319-323.
2. Cameron, A.D., et al. 1999. Crystal structure of human Glyoxalase II and its complex with a glutathione thiolester substrate analogue. *Structure* 7: 1067-1078.

CHROMOSOMAL LOCATION

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

SOURCE

Glyoxalase II (A-11) 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 IgG₃ 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-365233 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Glyoxalase II (A-11) 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 (A-11) is also recommended for detection of Glyoxalase II in additional species, including equine and canine.

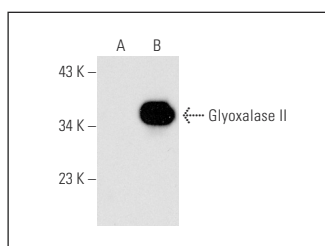
Suitable for use as control antibody for Glyoxalase II siRNA (h): sc-60705, Glyoxalase II siRNA (m): sc-60706, Glyoxalase II shRNA Plasmid (h): sc-60705-SH, Glyoxalase II shRNA Plasmid (m): sc-60706-SH, Glyoxalase II shRNA (h) Lentiviral Particles: sc-60705-V and Glyoxalase II shRNA (m) Lentiviral Particles: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

Molecular Weight of Glyoxalase II: 29 kDa.

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 (A-11): sc-365233. Western blot analysis of Glyoxalase II expression in non-transfected: sc-117752 (A) and human Glyoxalase II transfected: sc-170335 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Mey, J.T., et al. 2018. Dicarbonyl stress and glyoxalase enzyme system regulation in human skeletal muscle. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 314: R181-R190.
2. Lee, D.Y., et al. 2021. Biochemical regulation of the glyoxalase system in response to Insulin signaling. *Antioxidants* 10: 326.

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.

PROTOCOLS

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