Human/Mouse/Rat Glyoxalase I Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF4959

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse and rat Glyoxalase I in Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Glyoxalase I Ala2-Met184 Accession # Q04760
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

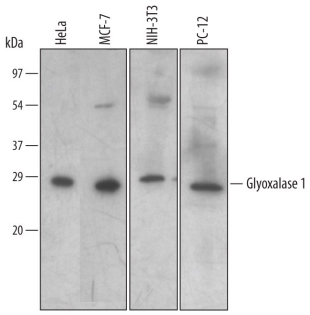
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Simple Western	50 µg/mL	See Below

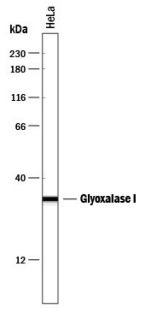
DATA

Western Blot



Detection of Human/Mouse/Rat Glyoxalase I by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line, MCF-7 human breast cancer cell line, NIH-3T3 mouse embryonic fibroblast cell line, and PC-12 rat adrenal pheochromocytoma cell line. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human/Mouse/Rat Glyoxalase I Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4959) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for Glyoxalase I at approximately 28 kDa (as indicated). This experiment was conducted using Immunoblot Buffer Group 2.

Simple Western



Detection of Human Glyoxalase I by Simple Western™ Simple Western lane view shows lysates of HeLa human cervical epithelial carcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for Glyoxalase I at approximately 33 kDa (as indicated) using 50 µg/mL of Goat Anti-Human/Mouse/Rat Glyoxalase I Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4959) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Glyoxalase I (also lactoylglutathione lyase, methylglyoxalase, and glx I) is a 21 kDa member of the Glyoxalase I family. The enzyme is an isomerase that catalyzes the formation of S-D-lactoylglutathione from the hemimercaptal adduct that forms spontaneously between methylglyoxal and reduced GSH (1-4). The monomeric subunit for human Glyoxalase I is 184 amino acids (aa) in length. In the mature protein, the methionine at the N-terminus is removed. Human Glyoxalase I exists in three separable isoforms as homo-and hetero-dimers of two allelic subunit variants, which differ in charge (1). The isoforms are formed when residue 19 is changed from cysteine to tyrosine and residue 111 is changed from glutamine to alanine. Each subunit binds one Zn^{2+} atom (1, 3-4). The protein is made up of multiple beta strands and alpha helical regions. Human Glyoxalase I shares 91% and 90% aa sequence identity with rat and mouse Glyoxalase I, respectively. The enzyme is ubiquitously expressed and is also present in many tumor cell lines, in which its concentration is often upregulated (1). The biological role of the enzyme remains unclear, but the glyoxalase system detoxifies the precursors of advanced glycation end products, which take part in the pathogenesis of vascular, diabetic, and uremic complications (5).

References:

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2. Marmstal, E. & B. Mannervik (1981) FEBS Lett. **131**:301.
3. Kim, N-S. *et al.* (1993) J. Biol. Chem. **268**:11217.
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5. Kalousova, M. *et al.* (2007) Ann. N. Y. Acad. Sci. **1126**:268.

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