

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	<i>E. coli</i> -derived recombinant human Glyoxalase I Ala2-Met184 Accession # Q04760
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 Zn²⁺ 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).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.