Human/Mouse/Rat Glyoxalase I Alexa Fluor® 647-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF4959R
100 µg

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
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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 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).

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