

Product Specification Sheet

Anti-glutathione antibodies and control

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| <input type="checkbox"/> Cat # GSH11-A | Rabbit anti-glutathione IgG | SIZE: 100 ul |
| <input type="checkbox"/> Cat # GSH15-N-100 | Glutathione-Ovalbumin protein conjugate for ELISA | SIZE: 100 ug |

Glutathione is a tripeptide made up of the amino acids γ -glutamic acid, cysteine, and glycine. The primary biological function of glutathione is to act as a non-enzymatic reducing agent to help keep cysteine thiol side chains in a reduced state on the surface of proteins. Glutathione is also used to prevent oxidative stress in most cells and helps to trap free radicals that can damage DNA and RNA. There is a direct correlation with the speed of aging and the reduction of glutathione concentrations in intracellular fluids. As individuals grow older, glutathione levels drop, and the ability to detoxify free radicals decreases.

Source of Antigen and Antibodies

Antigen	A glutathione-glutaraldehyde-BSA carrier conjugate
Ab Host/type	Rabbit, Polyclonal IgG, supplied in PBS+0.05% azide
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Cat # GSH15-N-100 ovalbumin protein conjugate was prepared by conjugating glutathione to purified chicken ovalbumin protein using glutaraldehyde method. The protein is supplied at 1 mg/ml in PBS, pH 7.4 in liquid or in powder form. This can be used to coat the ELISA plates to check antibody titer, or run on SDS-PAGE for Western (may see multiple bands due to modification of BSA) or used for antibody blocking (use 10 ul or 10 ug/1 ug of antibody). Store at -20°C in suitable size aliquots.

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG

- 100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% goat serum
Reconstitute powder in PBS at 1mg/ml

Storage

Short-term: unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C.

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder.

Recommended Usage

Western Blotting: An initial testing of antibodies is recommended at 1:500-1:2,000 using glutathione-ovalbumin conjugate (**Cat # GSH15-N-100**) as a control. Users must optimize antibody dilution depending upon the nature of samples and other technical conditions.

ELISA (1:1K-5K; using 50-100 ng control proteins/well).

Histochemistry & Immunofluorescence: An initial testing of 2-10 ug/ml is recommended. is optimized for use with immunogold or fluorescence detection. Visualization with enzyme-linked methods can be used but they typically compress the dynamic range of detection. Use of high gain methods such as tyramides will require the user to perform independent calibrations. Use with frozen sections is possible but will not yield optimal images as IgGs will penetrate aldehyde cross-linked tissue poorly and most amino acids are present at such high levels that prozone effect occurs. Use in whole mount or vibratome sections is not recommended for similar reasons.

Specificity & Cross-reactivity

This antibody reacts with free GSH and GSSG or glutathione conjugated to proteins. Antibodies react with glutathione-modified proteins from all species. No significant reactivity is observed with unmodified BSA (bovine serum albumin) or chicken ovalbumin. The antibody has been calibrated against a spectrum of antigens to assure hapten selectivity and proper affinity. No measurable glutaraldehyde-fixed tissue cross-reactivity (<1:1000) against L-alanine, γ -aminobutyrate, 1-amino-4-guanidobutane (AGB), D/L-arginine, D/L-aspartate, L-citrulline, L-cysteine, D/L-glutamate, D/L-glutamine, glycine, L-lysine, L-ornithine, L-serine, taurine, L-threonine, L-tryptophan, L-tyrosine

General References: Zechmann, B, et al. *Protoplasma*, 227:197-209 (2006); Zechmann, B. *Plant Biol.*, 7:49-57 (2005); Muller, M. *Protoplasma*, 223:213-219 (2004); Hudson, V.M. 2001. *Free Radic. Biol. Med.* 30, 1440. Locigno, R. and Castronovo, V. 2001. *Int. J. Oncol.* 19, 221.; Ruocco, L., 2001. *Minerva Med.* 92, 23.; Sen, C.K. 1997. *Nutr. Biochem.* 8, 660; Amara, A., et al. 1994. *Brain Res.* 659, 237.

*This product is for In vitro research use only.

GSH11-A-15-N-100

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India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi - 110034 (INDIA), Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com