

# Anti-Glutathione NEM



## TECHNICAL SPECIFICATIONS

5777 Hines Drive, Ann Arbor, MI 48108 USA Toll free (800) 883-8651 Fax (734) 668-2793 www.stressgenbioreagents.com technical@assaydesigns.com

### Mouse Anti-Glutathione NEM Monoclonal Antibody Product #: SPA-540

#### Immunogen

Glutathione alkylated with N-ethyl maleimide (NEM) and conjugated to keyhole limpet hemocyanin (KLH) (1).

#### Specificity

This antibody reacts with glutathione conjugated to NEM in human peripheral blood mononuclear cells when tested by immunofluorescence (1). It reacts with reduced glutathione, but not with oxidized glutathione in a glutathione-NEM inhibition ELISA (1).

#### Species Reactivity

All mammalian cells

#### Applications

	Certified*	Cited
ELISA (1)	50ng/ml	
Immunocytochemistry (1)	100 µg/mL	1:10
Flow Cytometry (1)	10 µg/mL	10 µg/mL

\*These working dilutions are provided as suggestions only. Further dilutions may be possible. Each user should determine the optimal conditions for their own particular experiment.

#### Scientific Background

Glutathione is a tripeptide ( $\gamma$ -glutamylcysteinylglycine) molecule found in most mammalian cells. It functions in basic metabolic processes such as serving as a sulfhydryl buffer to maintain redox within the cell, participating in the transport of amino acids and detoxifying hydrogen and organic peroxides (2). Glutathione depletion can inhibit Th-1 associated cytokine production and favors a Th-2 associated immune response (3). Glutathione deficiency has also been linked to decreased patient survival in HIV-infected individuals (4). Overexpression of apoptotic protein Bcl-2 causes relocalization of glutathione from the cytoplasm into the nucleus where glutathione is thought to alter the redox and block caspase activity (5).

#### References

1. Messina, J.P., Mazurkiewicz, J., and Lawrence, D.A. (1987) Anticarcinogenesis and Radiation Protection (Eds. Cerutti, P.A., Nygaard, O.F., and Simic, M.G.) **Plenum Publishing Corp.**, pp. 407-412.
2. Stryer, L. (1988) Biochemistry **W.H. Freeman and Co.**, pp. 593-593.
3. Peterson, J.D., Herzenberg, L.A., Vasquez, K., and Waltenbaugh, C. (1998) *PNAS* **95**: 3071-3076.
4. Herzenberg, L.A., DeRosa, S.C., Dubs, J.G., Roederer, M., Anderson, M.T., Ela, S.W., Deresinski, S.C., and Herzenberg, L.A. (1997) *PNAS* **94**: 1967-1972.
5. Voehringer, D.W., McConkey, D.J., McDonnell, T.J., Brisbay, S., and Meyn, R.E. (1998) *PNAS* **95**: 2956-2960.

Rev: 02/22/06

## CERTIFICATE OF ANALYSIS

# Anti-Glutathione NEM

**Product #: SPA-540**

**Size: 100 µg**

**Lot #: 907402**

**Format:** Mouse immunoglobulin in phosphate buffered saline (PBS), pH 7.2, containing 0.1mM PMSF.

**Concentration:** 1.4 mg/mL

**Host:** Mouse  
**Clone#:** 8.1GSH

**Antibody Type:** Monoclonal  
**Isotype:** IgG<sub>1</sub>

**Certification:** The sensitivity of SPA-540 was determined by measuring the ability of GS-NEM to inhibit binding of the antibody to BSA-GS-NEM coated ELISA plates.

**Certified by:** A. Rodriguez  
**Date:** 08/11/99

**QC by:** C. Pastula  
**Date:** 07/26/99

**STORAGE & SHIPPING:** Store frozen product at or below -20°C. Thawed product may be stored for 2-4 weeks at 4°C. For optimal storage, aliquot to smaller portions and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles. For maximum product recovery, after thawing, centrifuge the product vial before removing cap. Shipped on gel packs.



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