

# Anti-Calreticulin

Catalog# SPC-122A/B

Size: 50/200µL

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This product is for *in vitro* research use only and is not intended for use in humans or animals

## StressMarq

Biosciences Inc.

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Product	Rabbit anti-Calreticulin antibody; polyclonal
Clone	N/A
Immunogen	Human calreticulin synthetic peptide with a cysteine residue added and the peptide conjugated to KLH
Host and Subclass	Rabbit
Cited Applications	WB, IP, ICC, IHC
Specificity	Detects ~63kDa
Species Cross-Reactivity	Human, mouse, rat, bovine, canine, chicken, guinea pig, monkey, pig, hamster, rabbit, sheep
Format	Whole Rabbit serum
Working Dilution	WB 1:5000-10000 (ECL; human)
Storage and stability	-20°C; 1 year+; shipped on cold packs

### Scientific Background

Calreticulin is a multifunctional, highly conserved Ca<sup>2+</sup> - binding protein that is localized to the endoplasmic reticulum (ER), but has also been detected in the nucleus and nuclear envelop. Like many other ER proteins, it has the conserved ER retention KDEL (Lys-Asp-Glu-Leu) sequence at its C-terminus (1-3). CRT's three domains include a 180 residue N-terminal domain, a proline-rich P-domain (residues 189-288) that binds Ca<sup>2+</sup> with high affinity and shares homology with calnexin (CNX) and calmeglin, and a 110 residue C-terminal domain that binds Ca<sup>2+</sup> with low affinity but high capacity (1,3). Recent studies suggest that this soluble ER protein has a multifunctional role. It appears to be involved in calcium storage and regulation as well as having a molecular

chaperone activity. It has been shown to interact with the cytoskeleton and to be involved in the regulation of gene expression. Calreticulin may also play a role in cellular proliferation including its apparent activity in the proliferation of certain viruses within mammalian host cells (4, 5), and it has also been shown to be induced in response to various types of cell stress including amino acid deprivation (6). Close interconnections among protein synthesis, gene expression and calcium signaling have been observed by many researchers in recent years. Calreticulin might be centrally located and therefore it crucially participates in the coordination of many functions by the cell (4, 5). Studies also suggest its involvement in a few diseases such as systemic lupus erythematosus, rheumatoid arthritis, celiac disease, complete congenital heart block, and halothane hepatitis (1).

### Selected References

1. Johnson S., *et al.* (2001) *Trends Cell Biol* 11: 122-129.
2. Smith M.J., *et al.* (1989) *EMBO J.* 8: 3581-3586.
3. Ellgaard L., *et al.* (2001) *Curr Opin Cell Biol.* 13: 431-437.
4. Krause K.H., and Michalak M. (1997) *Cell.* 88: 439-443.
5. Nash P.D., *et al.* (1994) *Mol Cell Biochem.* 135: 71-78.
6. Heal R., and McGivan J. (1998) *Biochem J.* 329: 389-394.
7. Lucero H.A., *et al.* (1998) *J Biol Chem.* 273: 9857-9863.
8. Tanaka S., *et al.* (2000) *J Biol Chem.* 275: 10388-10393.
9. Yoon G.S., *et al.* (2000) *Cancer Res.* 60: 1117-1120.
10. Antoniou A.N., *et al.* (2002) *Immunology* 106: 182-189.
11. Wada I., *et al.* (1997) *EMBO J.* 16: 5420-5432.
12. Laguerre D.B., *et al.* (1998) *J Vir.* 72: 4940-4949.

### Certificate of Analysis

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A 1:5000 dilution of SPC-122 was sufficient for detection of Calreticulin in 20µg of HeLa cell lysate by ECL immunoblot analysis.

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# Material Safety Data Sheet

## Calreticulin (Polyclonal) SPC-122

This product is for *in vitro* research use only and is not intended for use in humans or animals

The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

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### Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
None		

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### Physical Data

This product consists of whole rabbit serum shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

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### Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

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### Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

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### Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

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### Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

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### First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

Authorized: StressMarq Biosciences Inc.  
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