

Calreticulin Monoclonal Antibody (FMC 75)

Product Specifications

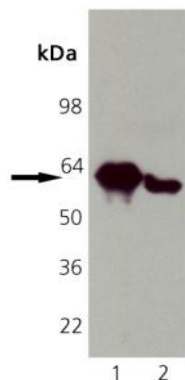
Catalog Number:	SPA-601
Source:	Mouse
Isotype:	IgG ₁
Species Reactivity:	Human, monkey Other species not tested
Applications:	WB: 1:1000 (ECL) IP: 12.5 µg/ml Other applications not tested. <i>The optimal dilution for a specific application must be determined by the investigator</i>
Predicted M.W.:	~ 63 kDa
Concentration:	See product label
Purification:	Protein G Affinity
Format:	PBS, pH 7.2, 0.09% azide, 50% glycerol
Storage:	Store at -20°C <i>Shipping conditions may differ from the recommended storage temperature</i>
Immunogen:	Calreticulin-maltose binding fusion protein
Related Products:	
NEW! SPP-600	Calreticulin Recombinant Human Protein
LYC-HL101	HeLa Cell Lysate (Heat Shocked)
SAB-300	Goat anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate
SPA-865	Calnexin Polyclonal Antibody
SPA-600	Calreticulin Polyclonal Antibody
SPA-860	Calnexin Polyclonal Antibody

Background:

The multifunctional, multi-compartmental protein Calreticulin (Crt) functions as a soluble molecular chaperone of new or misfolded proteins as well as a Ca²⁺-binding protein. Most abundant in the ER lumen, Crt expression also occurs in other membrane-bound organelles, the cell surface, and extracellularly. Also known as CRP-55, calregulin and HACBP (high affinity calcium-binding protein)^{1,2}, Crt contains the ER-retrieval sequence, KDEL, and is the soluble paralog of the ER membrane protein Calnexin (Cnx)³. Crt's three domains include a 180 residue N-terminal domain, a proline-rich P-domain (residues 189-288) that binds Ca²⁺ with high affinity and shares homology with Cnx and calmeglin, and a 110 residue C-terminal domain that binds Ca²⁺ with low affinity but high capacity^{1,4}. The P-domain may interact with the co-chaperone ERp57 (Grp58), a thiol reductase. The NMR structure of the P-domain consists of an extended hairpin that appears to form a curved protrusion from the Crt core domain⁴. Both Crt and its membrane bound homolog CNX interact with proteins and glycoproteins possessing monoglucosylated N-glycans^{1,4,5}. The Crt/Cnx cycle promotes correct folding, inhibits aggregation of folding intermediates, blocks premature oligomerization, regulates ER degradation, and prevents incompletely folded glycoproteins from exiting to the Golgi complex^{4,5}. Crt also appears to function as an auto-antigen in systemic lupus erythematosus, rheumatoid arthritis, celiac disease, complete congenital heart block, and halothane hepatitis¹. A diversity of additional functions attributed to Crt includes adhesion, blood function, and cardiac and neuronal development gene expression.

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. Fliegel, L., et al. (1989) J Biol Chem. **264**, 21522-21528.
4. Ellgaard, L., et al. (2001) Curr Opin Cell Biol. **13**, 431-437.
5. Helenius, A., et al. (2001) Science **291**, 2364-2369.



Western Blot Analysis of Calreticulin Monoclonal Antibody:

Lane 1: HeLa Cell Lysate (Heat Shocked),
Lane 2: Vero Cell Lysate

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