

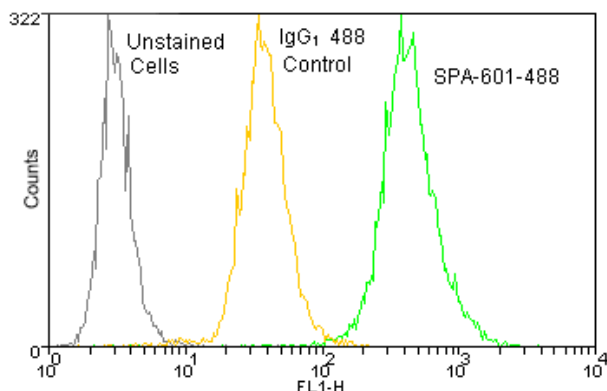
# Calreticulin Monoclonal Antibody ( FMC 75), DyLight™ 488 Conjugate

New Conjugate Forms  
Now Available!  
DyLight™ 488 & PE

## Product Specifications

|                            |   |
|----------------------------|---|
| <b>Catalog Number:</b>     | SPA-601-488   |
| <b>Source:</b>             | Mouse   |
| <b>Isotype:</b>            | IgG <sub>1</sub>  |
| <b>Species Reactivity:</b> | Human and Monkey<br>Other species not tested.   |
| <b>Applications:</b>       | Flow: 1:20<br>Other applications not tested.<br><i>The optimal dilution for a specific application must be determined by the investigator</i>   |
| <b>Predicted M.W.:</b>     | ~ 63 kDa  |
| <b>Concentration:</b>      | See product label   |
| <b>Purification:</b>       | Protein G Affinity  |
| <b>Format:</b>             | PBS, pH 7.2, 0.09% azide  |
| <b>Storage:</b>            | Store at -20 °C<br><i>Shipping conditions may differ from the recommended storage temperature</i>   |
| <b>Immunogen:</b>          | Recombinant Calreticulin Protein  |
| <b>Related Products:</b>   | <p><b>NEW!</b> SPP-600 Recombinant Human Calreticulin</p> <p><b>NEW!</b> SAB-600-488 IgG<sub>1</sub> DyLight™ 488 Isotype Control</p> <p><b>NEW!</b> SPA-601PE Calreticulin mAb, PE Conjugate</p> <p>SPA-601 Calreticulin Monoclonal Antibody</p> <p>SPA-865 Calnexin Polyclonal Antibody</p> <p>SPA-600 Calreticulin Polyclonal Antibody</p> <p>SPA-860 Calnexin Polyclonal Antibody</p> |

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**Flow Cytometry Analysis:** 10<sup>6</sup> Jurkat cells stained using Calreticulin Monoclonal Antibody (FMC 75), DyLight™ 488 Conjugate at a concentration of 50 µg/mL.

## Background:

The multifunctional, multi-compartmental protein Calreticulin (Crt) functions as a soluble molecular chaperone of new or misfolded proteins, as well as a Ca<sup>2+</sup>-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)<sup>1,2</sup>, Crt contains the ER-retrieval sequence, KDEL, and is the soluble paralog of the ER membrane protein Calnexin (Cnx)<sup>3</sup>. 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 Cnx and calmeglin, and a 110 residue C-terminal domain that binds Ca<sup>2+</sup> with low affinity but high capacity<sup>1,4</sup>. 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 domain<sup>4</sup>. Both Crt and its membrane bound homolog CNX interact with proteins and glycoproteins possessing monoglucosylated N-glycans<sup>1,4,5</sup>. 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<sup>4,5</sup>. Crt also appears to function as an auto-antigen in systemic lupus erythematosus, rheumatoid arthritis, celiac disease, complete congenital heart block, and halothane hepatitis<sup>1</sup>. 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. Helenuis, A., et al. (2001) Science **291**, 2364-2369

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5777 Hines Drive • Ann Arbor, MI • 48108 | Tel: 800-833-8651 or 800-668-6113 | Fax: 734-668-2793  
www.assaydesigns.com | orders@assaydesigns.com | technical@assaydesigns.com

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