10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Calreticulin Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1151a

Specification

Calreticulin Antibody - Product Information

Application	**WB, IHC, ICC, E**
Primary Accession	P27797
Reactivity	**Human, Mouse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG2a**
Calculated MW	**48kDa KDa**

Description
Calreticulin, also known as RO, CRT, SSA, cC1qR, FLJ26680, CALR. Entrez Protein NP_004334. It is a multifunctional protein that acts as a major Ca(2+)-binding (storage) protein in the lumen of the endoplasmic reticulum. It is also found in the nucleus, suggesting that it may have a role in transcription regulation. Calreticulin binds to the synthetic peptide KLGFFKR, which is almost identical to an amino acid sequence in the DNA-binding domain of the superfamily of nuclear receptors. Calreticulin binds to antibodies in certain sera of systemic lupus and Sjogren patients which contain anti-Ro/SSA antibodies, it is highly conserved among species, and it is located in the endoplasmic and sarcoplasmic reticulum where it may bind calcium. The amino terminus of calreticulin interacts with the DNA-binding domain of the glucocorticoid receptor and prevents the receptor from binding to its specific glucocorticoid response element. Calreticulin can inhibit the binding of androgen receptor to its hormone-responsive DNA element and can inhibit androgen receptor and retinoic acid receptor transcriptional activities in vivo, as well as retinoic acid-induced neuronal differentiation. Thus, calreticulin can act as an important modulator of the regulation of gene transcription by nuclear hormone receptors. Systemic lupus erythematosus is associated with increased autoantibody titers against calreticulin but calreticulin is not a Ro/SS-A antigen. Earlier papers referred to calreticulin as an Ro/SS-A antigen but this was later disproven. Increased autoantibody titer against human calreticulin is found in infants with complete congenital heart block of both the IgG and IgM classes.

Immunogen
Synthetic peptide corresponding to aa (EEEDVPGQAKDELC) of human Calreticulin, conjugated to KLH.

Formulation
Ascitic fluid containing 0.03% sodium azide.

Calreticulin Antibody - Additional Information

Gene ID 811

Other Names
Calreticulin, CRP55, Calregulin, Endoplasmic reticulum resident protein 60, ERp60, HACBP, grp60, CALR, CRTC

Dilution

WB~~1/500 - 1/2000
IHC~~1/500 - 1/2000
ICC~~N/A
E~~N/A

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Calreticulin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Calreticulin Antibody - Protein Information

Name CALR (HGNC:1455)

Synonyms CRTC

Function
Calcium-binding chaperone that promotes folding, oligomeric assembly and quality control in the endoplasmic reticulum (ER) via the calreticulin/calnexin cycle. This lectin interacts transiently with almost all of the monoglucosylated glycoproteins that are synthesized in the ER (PubMed:7876246). Interacts with the DNA-binding domain of NR3C1 and mediates its nuclear export (PubMed:11149926). Involved in maternal gene expression regulation. May participate in oocyte maturation via the regulation of calcium homeostasis (By similarity). Present in the cortical granules of non-activated oocytes, is exocytosed during the cortical reaction in response to oocyte activation and might participate in the block to polyspermy (By similarity).

Cellular Location
Endoplasmic reticulum lumen. Cytoplasm, cytosol. Secreted, extracellular space, extracellular matrix. Cell surface. Sarcoplasmic reticulum lumen {ECO:0000250|UniProtKB:P28491}. Cytoplasmic vesicle, secretory vesicle, Cortical granule {ECO:0000250|UniProtKB:Q8K3H7}. Cytolytic granule. Note=Also found in cell surface (T cells), cytosol and extracellular matrix (PubMed:10358038). During oocyte maturation and after parthenogenetic activation accumulates in cortical granules. In pronuclear and early cleaved embryos localizes weakly to cytoplasm around nucleus and more strongly in the region near the cortex (By similarity). In cortical granules of non-activated oocytes, is exocytosed during the cortical reaction in response to oocyte activation (By similarity). {ECO:0000250|UniProtKB:P28491, ECO:0000250|UniProtKB:Q8K3H7, ECO:0000269|PubMed:8418194}

Calreticulin Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

- Flow Cytomety
- Cell Culture

Calreticulin Antibody - Images

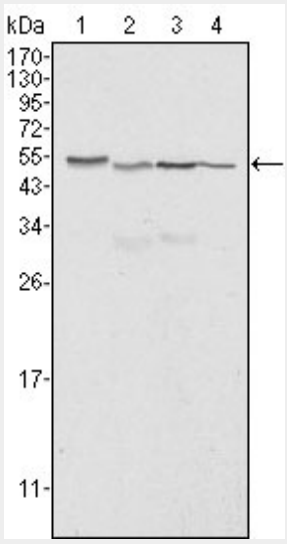

Figure 1: Western blot analysis using Calreticulin mouse mAb against Hela (1), A549 (2), NTERA2 (3) and MCF-7 (4) cell lysate.

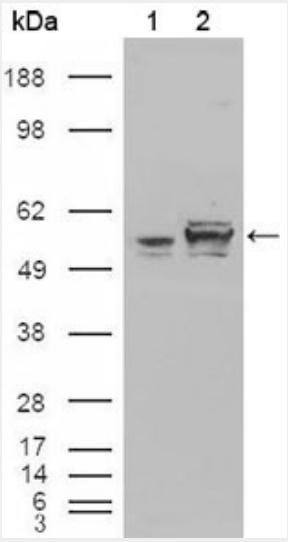

Figure 2: Western blot analysis using Calreticulin mouse mAb against HEK293T cells transfected with the pCMV6-ENTRY control (1) and pCMV6-ENTRY Calreticulin cDNA (2).

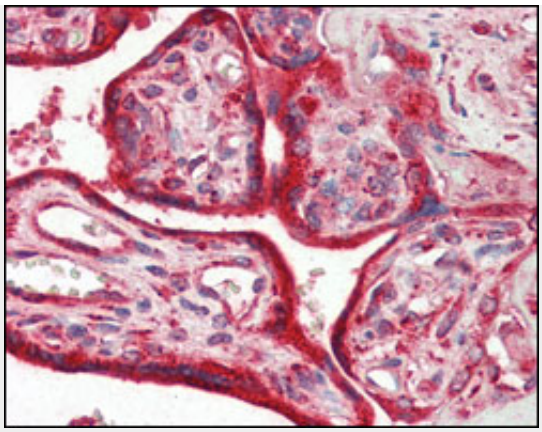

Figure 3: Immunohistochemical analysis of paraffin-embedded human placenta tissues using Calreticulin mouse mAb.

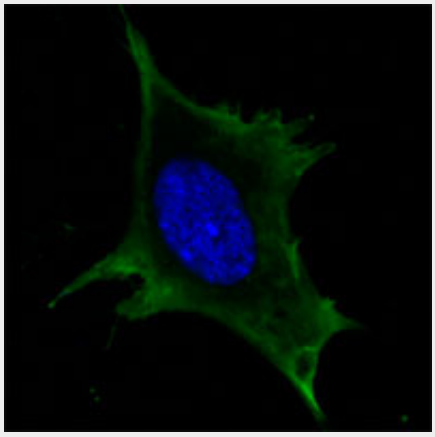

Figure 4: Confocal immunofluorescence analysis of 3T3-L1 cells using Calreticulin mouse mAb(green). Blue: DRAQ5 fluorescent DNA dye.

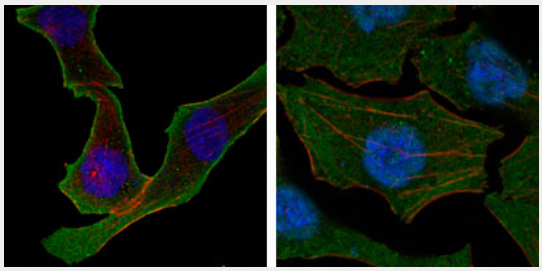

Figure 5: Confocal immunofluorescence analysis of SKBR-3 (left) and A549 (right) cells using Calreticulin mouse mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin. Blue: DRAQ5 fluorescent DNA dye.

Calreticulin Antibody - References

1. J Biol Chem. 2006 May 5;281(18):12841-8. Epub 2006 Mar 9. 2. Biochim Biophys Acta. 2006 May;1760(5):745-53. Epub 2006 Feb 28.