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Calreticulin Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1151a

Product Information

Application	WB, IHC, ICC, E
Primary Accession	P27797
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Clone Names	1G6A7
Isotype	IgG2a
Calculated MW	48142
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.

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.

Protein Information

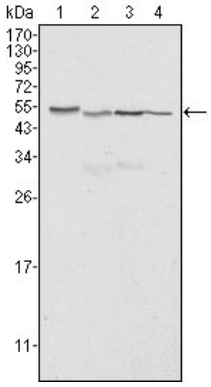
Name	CALR (HGNC:1455)
Synonyms	CRTC
Function	Calcium-binding chaperone that promotes folding, oligomeric assembly and quality control in the endoplasmic reticulum (ER) via the calreticulin/calnexin cycle. This lectin interacts transiently with almost all of the monoglucosylated glycoproteins that are 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}

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.

Images

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



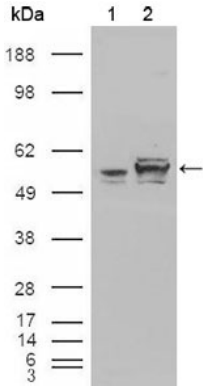


Figure 2: Western blot analysis using Calreticulin mouse mAb against HEK293T cells transfected with the pCMV6-ENTRY control (1) and pCMV6-ENTRY Calreticulin cDNA (2).

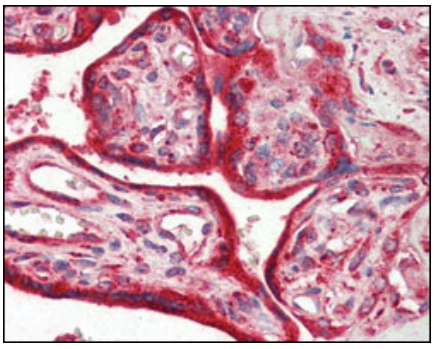


Figure 3: Immunohistochemical analysis of paraffin-embedded human placenta tissues using Calreticulin mouse mAb.

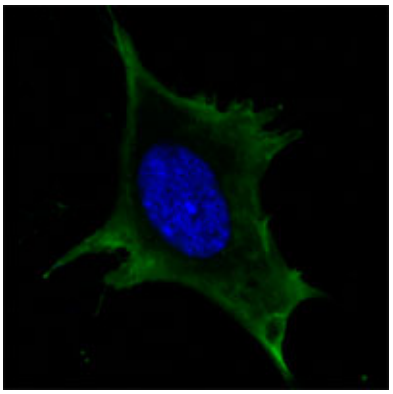


Figure 4: Confocal immunofluorescence analysis of 3T3-L1 cells using Calreticulin mouse mAb(green). Blue: DRAQ5 fluorescent DNA dye.

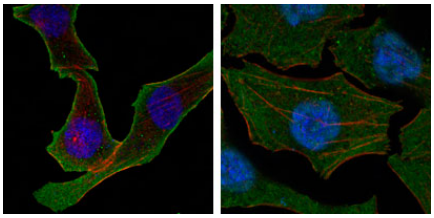


Figure 5: Confocal immunofluorescence analysis of SKBR-3 (left) and A549 (right) cells using Calreticulin mouse mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin. Blue: DRAQ5 fluorescent DNA dye.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.