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CALR Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5211

Product Information

Application	FC, IHC-P, WB
Primary Accession	P27797
Other Accession	NP_004334.1
Reactivity	Mouse, Rat, Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	48142
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	811
Antigen Region	1-437
Other Names	CALR; CRTC; Calreticulin; CRP55; Calregulin; Endoplasmic reticulum resident protein 60; HACBP; grp60
Dilution	FC~~1:10~50 IHC-P~~1:100~500 WB~~1:1000
Target/Specificity	This CALR Antibody is generated from rabbits immunized with a recombinant protein of human CALR.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CALR 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}

Background

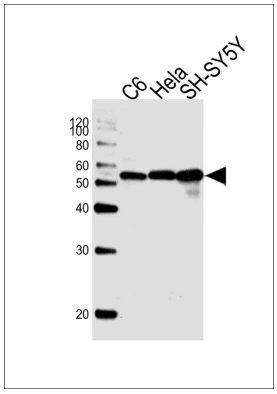
Calreticulin is a multifunctional protein that acts as a major Ca(2+)-binding (storage) protein in the lumen of the endoplasmic reticulum. It is also found in the nucleus, suggesting that it may have a role in transcription regulation. Calreticulin binds to the synthetic peptide KLGFFKR, which is almost 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.

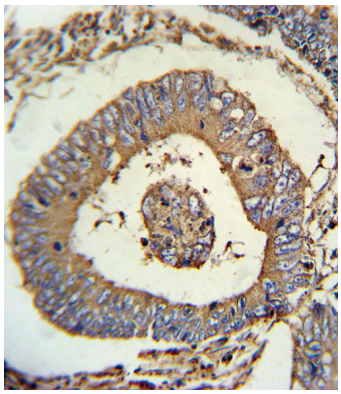
References

Du, X.L., et al. Oncogene 28(42):3714-3722(2009)
Sato, H., et al. Biochim. Biophys. Acta 1790(10):1198-1205(2009)
Abd Alla, J., et al. Biochem. Biophys. Res. Commun. 387(1):186-190(2009)

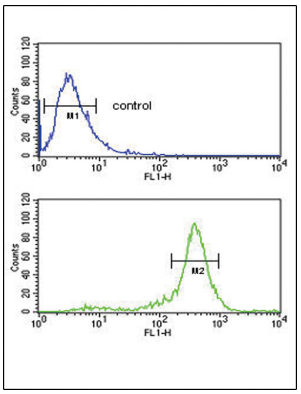
Images

Western blot analysis of lysates from rat C6,Hela,SH-SY5Y cell line (from left to right), using CALR Antibody(Cat. #AW5211). AW5211 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.





CALR Antibody (Cat. #AW5211) immunohistochemistry analysis in formalin fixed and paraffin embedded human colon carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the CALR Antibody for immunohistochemistry. Clinical relevance has not been evaluated.



CALR Antibody (Cat. #AW5211) flow cytometric analysis of HepG2 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- eIF4E and Ezrin cooperate in pseudopods to drive a localized migratory translation program in acute myeloid leukemia.

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