

# CALR Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AW5211

## Product Information

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<b>Application</b>	FC, IHC-P, WB
<b>Primary Accession</b>	<a href="#">P27797</a>
<b>Other Accession</b>	<a href="#">NP_004334.1</a>
<b>Reactivity</b>	Mouse, Rat, Human
<b>Predicted</b>	Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Calculated MW</b>	48142
<b>Isotype</b>	Rabbit IgG
<b>Antigen Source</b>	HUMAN

## Additional Information

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<b>Gene ID</b>	811
<b>Antigen Region</b>	1-437
<b>Other Names</b>	CALR; CRTC; Calreticulin; CRP55; Calregulin; Endoplasmic reticulum resident protein 60; HACBP; grp60
<b>Dilution</b>	FC~~1:10~50 IHC-P~~1:100~500 WB~~1:1000
<b>Target/Specificity</b>	This CALR Antibody is generated from rabbits immunized with a recombinant protein of human CALR.
<b>Format</b>	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.
<b>Storage</b>	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.
<b>Precautions</b>	CALR Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	CALR ( <a href="#">HGNC:1455</a> )
<b>Synonyms</b>	CRTC

<b>Function</b>	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: <a href="#">7876246</a> ). Interacts with the DNA-binding domain of NR3C1 and mediates its nuclear export (PubMed: <a href="#">11149926</a> ). 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).
<b>Cellular Location</b>	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

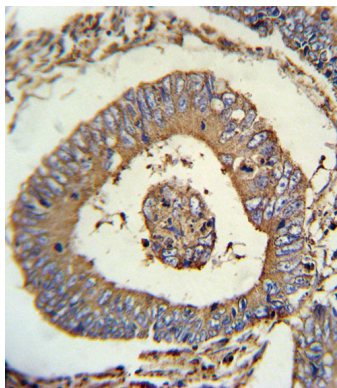
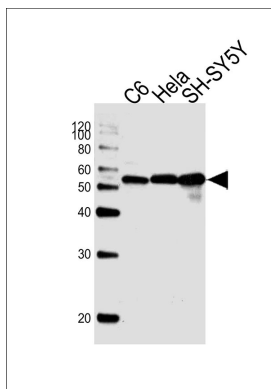
Calreticulin is a multifunctional protein that acts as a major  $\text{Ca}^{2+}$ -binding (storage) protein in the lumen of the endoplasmic reticulum. It is also found in the nucleus, suggesting that it may have a role in transcription regulation. Calreticulin binds to the synthetic peptide KLGF<sup>FF</sup>KR, 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

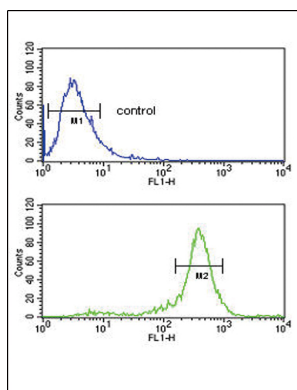
- Du, X.L., et al. *Oncogene* 28(42):3714-3722(2009)  
Sato, H., et al. *Biochim. Biophys. Acta* 1790(10):1198-1205(2009)  
Abd Alla, J., et al. *Biochem. Biophys. Res. Commun.* 387(1):186-190(2009)

## 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.

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