Calreticulin Antibody

Cat. No. CP10033

Applications:	**WB, IP, IHC, ICC**
Detected MW:	**55 kDa**
Species & Reactivity:	**Human, Mouse, Rat**
Isotype:	**Mouse IgG2a**

BACKGROUND

Calreticulin is a multifunctional protein that acts as a major Ca^{2+}-binding (storage) protein in the lumen of the Endoplasmic Reticulum (ER). ER plays a critical role in the synthesis and chaperoning of membrane-associated and secreted proteins. The membrane is also an important site of Ca^{2+} storage and release. Calreticulin is a unique ER luminal resident protein. The protein affects many cellular functions, both in the ER lumen and outside of the ER environment. In the ER lumen, Calreticulin performs two major functions: chaperoning and regulation of Ca^{2+} homoeostasis. Calreticulin is a highly versatile lectin-like chaperone, and it participates during the synthesis of a variety of molecules, including ion channels, surface receptors, integrins and transporters. The protein also affects intracellular Ca^{2+} homoeostasis by modulation of ER Ca^{2+} storage and transport.[1] Studies on the cell biology of Calreticulin revealed that the ER membrane is a very dynamic intracellular compartment affecting many aspects of cell physiology.

Calreticulin 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. 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.[2] In addition calticulin may be involved in some disease development. Systemic lupus erythematosus is associated with increased autoantibody titers against Calreticulin but Calreticulin is not a Ro/SS-A antigen.[3]

References:

1. Michalak, M. et al: Biochem. J. 344:281-292, 1999
2. Burns, K. et al: Nature 367:476-80, 1994
3. Eggleton, P. :Lupus 6:564-71, 1997

TECHNICAL INFORMATION

Source:

Calreticulin Antibody is a mouse monoclonal antibody raised against a short peptide (EEEDVPGQAKDELC) from human Calreticulin sequence.

Specificity and Sensitivity:

This antibody detects endogenous Calreticulin proteins in normal cell lysates without cross-reactivity with other related proteins.

Storage Buffer: PBS and 30% glycerol

Storage:

Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1,000
IP	1:25-50
IHC	1:100-250
ICC	1:100-250
FACS	n/d

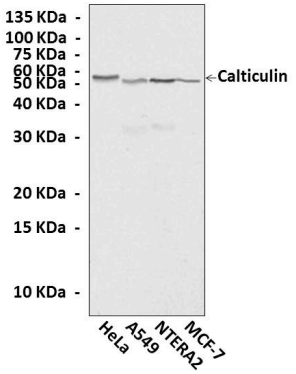
**Optimal dilutions must be determined by end user.*

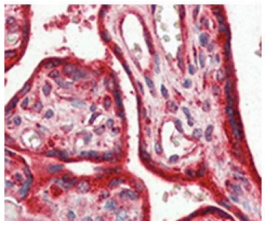
Calreticulin Antibody

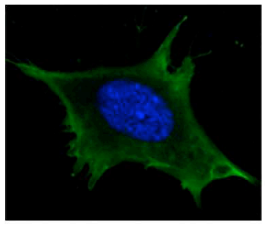
Cat. No. CP10033

Applications:	**WB, IP, IHC, ICC**
Detected MW:	**55 kDa**
Species & Reactivity:	**Human, Mouse, Rat**
Isotype:	**Mouse IgG2a**

QUALITY CONTROL DATA







Top: Western Blot detection of Calreticulin proteins in various cell lysates using Calreticulin Antibody. **Middle:** This antibody stains paraffin-embedded human placenta tissue in immunohistochemical analysis. **Bottom:** It also stains NIH3T3 cells in confocal immunofluorescent testing (Calreticulin Antibody: green; DRAQ5 DNA dye: Blue).