

# Product Datasheet

## Calreticulin Antibody NB600-101SS

Unit Size: 0.025 ml

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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[www.novusbio.com/NB600-101](http://www.novusbio.com/NB600-101)

Updated 6/15/2014 v.20.1

**NB600-101SS**

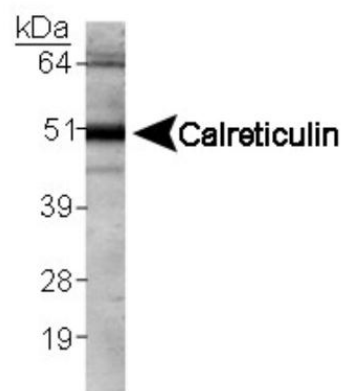
## Calreticulin Antibody

<b>Product Information</b>	
<b>Unit Size</b>	0.025 ml
<b>Concentration</b>	1.0 mg/ml
<b>Storage</b>	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
<b>Clonality</b>	Polyclonal
<b>Preservative</b>	0.05% Sodium Azide
<b>Purity</b>	Immunogen affinity purified
<b>Product Description</b>	
<b>Host</b>	Rabbit
<b>Gene ID</b>	811
<b>Gene Symbol</b>	CALR
<b>Species</b>	Human, Mouse, Rat, Bovine, Hamster, Primate
<b>Species Reactivity</b>	Human, bovine, rat and mouse calreticulin. Others not tested.
<b>Marker</b>	Endoplasmic Reticulum Marker
<b>Immunogen</b>	A fusion protein to mouse Calreticulin [UniProt# P14211]
<b>Product Application Details</b>	
<b>Applications</b>	Western Blot, Simple Western, Blocking/Neutralizing, Dot Blot, Electron Microscopy, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunoprecipitation, Protein Array
<b>Recommended Dilutions</b>	Immunocytochemistry/Immunofluorescence 1:50-1:250, Immunohistochemistry 1:50, Western Blot 1:1000, Dot Blot, Protein Array, Immunoprecipitation, Electron Microscopy, Blocking/Neutralizing, Simple Western 1:50
<b>Application Notes</b>	This Calreticulin antibody is useful for Immunocytochemistry/Immunofluorescence, Immunohistochemistry and Western blot, where a band is observed at ~55 kDa. Electron Microscopy, Blocking/Neutralizing, Dot Blot, Immunoprecipitation and Protein Array were reported in scientific literature. In Simple Western only 10-15 uL of the recommended dilution is used per data point.

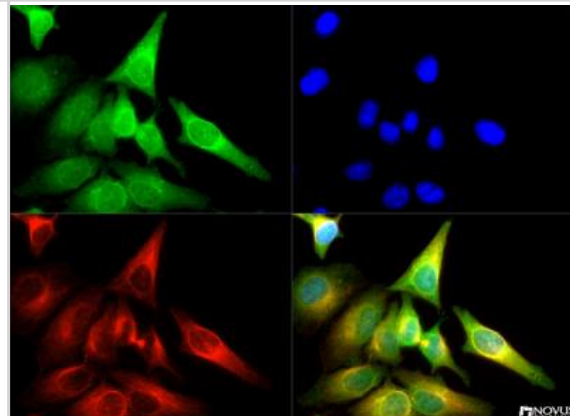


## Images

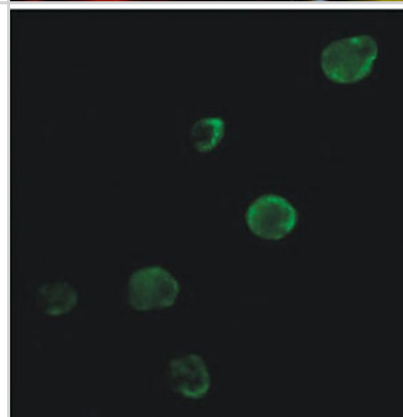
Western Blot: Calreticulin Antibody [NB600-101] - Human kidney lysate.



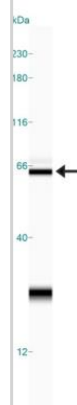
Immunocytochemistry/Immunofluorescence: Calreticulin Antibody [NB600-101] - The Calreticulin antibody NB600-101 was tested in HeLa cells at a 1:250 dilution against Dylight 488 (Green). Alpha-tubulin and nuclei were counterstained against Dylight 550 (Red) and DAPI (Blue), respectively.



Immunocytochemistry/Immunofluorescence: Calreticulin Antibody [NB600-101] - Immunofluorescence staining of Calreticulin in HCT15 colon cancer cells using NB600-101. Secondary antibody was an Alexa Fluor 488. Photo courtesy of Dr. Birkenkamp Demtroeder, Arhus University Hospital.



Simple Western: Calreticulin Antibody [NB600-101] - Simple Western lane view shows a specific band for Calreticulin in 0.5 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.



## Publications

Teng CY, van Oers MM, Wu TY et al. Additive effect of calreticulin and translation initiation factor eIF4E on secreted protein production in the baculovirus expression system. *Appl Microbiol Biotechnol* 2013 Jul 31 [PMID: 23900798] (WB)

Teng CY, Chang SL, Tsai MF, Wu TY. alpha-Synuclein and beta-synuclein enhance secretion protein production in baculovirus expression vector system *Appl Microbiol Biotechnol* 2013 Jan 12 [PMID: 23314197] (WB)

Zhou M et al. ATP-sensitive K<sup>+</sup>-channel subunits on the mitochondria and endoplasmic reticulum of rat cardiomyocytes. *J Histochem Cytochem*53(12):1491-500. 2005 Dec. [PMID: 15983113] (WB, IHC, Rat)

Olesen SH et al. Human FK506 binding protein 65 is associated with colorectal cancer. *Mol Cell Proteomics*4(4):534-44. 2005 Apr. [PMID: 15671042] (WB, IHC, ICC/IF, Human)

Knox CD et al. Novel role of phospholipase C-delta1: regulation of liver mitochondrial Ca<sup>2+</sup> uptake. *Am J Physiol Gastrointest Liver Physiol*287(3):G533-40. 2004 Sep. [PMID: 15107298] (WB, Rat)

Somogyi E et al. Calreticulin--an endoplasmic reticulum protein with calcium-binding activity is also found in the extracellular matrix. *Matrix Biol*22(2):179-91. 2003 Apr. [PMID: 12782144] (EM, Rat)

Ho HC, Suarez SS. Characterization of the intracellular calcium store at the base of the sperm flagellum that regulates hyperactivated motility. *Biol Reprod*68(5):1590-6. 2003 May. [PMID: 12606347] (ICC/IF, Bovine)

Luo X et al. C1q-calreticulin induced oxidative neurotoxicity: relevance for the neuropathogenesis of Alzheimer's disease. *J Neuroimmunol*135(1-2):62-71. 2003 Feb. [PMID: 12576225] (ICC/IF, B/N, Rat)

Teng CY, Chang SL, van Oers MM, Wu TY. Enhanced Protein Secretion From Insect Cells by Co-Expression of the Chaperone Calreticulin and Translation Initiation Factor eIF4E. *Mol Biotechnol*. 2012 May 4. [PMID: 22555850] (WB)

Baruah P et al. C1q enhances IFN-gamma production by antigen-specific T cells via the CD40 costimulatory pathway on dendritic cells. *Blood*113(15):3485-93. 2009 Apr 9. [PMID: 19171874] (FLOW, ICC/IF, Mouse)

Anderson DJ et al. Recruitment of functionally distinct membrane proteins to chromatin mediates nuclear envelope formation in vivo. *J Cell Biol*;186(2):183-91. 2009 Jul 27. [PMID: 19620630] (WB, ICC/IF)

Jain P et al. Identification of human T cell leukemia virus type 1 tax amino acid signals and cellular factors involved in secretion of the viral oncoprotein. *J Biol Chem*282(47):34581-93. 2007 Nov 23. [PMID: 17897946] (PA, DB, Hamster)

More publications at <http://www.novusbio.com/NB600-101>



## Procedures

### Western Blot protocol specific for Calreticulin Antibody (NB600-101)

#### Western Blot Procedure

- 1) Scrape cells\* off culture dishes and centrifuge.
- 2) Dissolve cell pellet in decanoyl-N-methyl glucamide (MEGA-10)\*\* and clarify by centrifugation.
- 3) Mix 30 mg of protein\*\*\* with sample buffer containing mercaptoethanol and SDS and run on a 10% SDS gel. The protein was electroblotted on to nitrocellulose.
- 4) Block nitrocellulose with 5% powdered milk in PBS for 1 hour.
- 5) Wash the blot with PBS.
- 6) Add the antibody at a concentration of 1:1000 in 5% powdered milk/PBS and incubate for 1 hour.
- 7) Wash 3 x 5 minutes with PBS.
- 8) Add peroxidase-labelled anti-rabbit second antibody in PBS at a concentration of 1:3000 and shake for 1 hour.
- 9) Wash extensively with PBS.
- 10) Develop with ECL reagents (Amersham). For this experiment, the film was exposed to the blot for 10 seconds.

\*\*\*\*

- i. The cells used were the H4IIE rat hepatoma cell line and the NBL-1 bovine renal epithelial cell line.
- ii. The detergent used is not critical. MEGA-10 has the advantage of not interfering with the Bradford protein reagent.
- iii. Whole cells were used in this experiment. If 30mg of a cell membrane fraction were used a more intense band would be seen.
- iv. In this experiment, the antibody was used at 1:1000, but since whole cell protein was used and only 10 seconds development was required it could presumably be used at a lower concentration for many applications.

### Immunohistochemistry Procedure (NB600-101)

#### Immunohistochemistry Procedure

- 1) Paraffin-embedded sections were treated using an HIER [heat-induced epitope retrieval] protocol.
- 2) NB 600-101 was diluted 1:50 with a DAKO antibody diluent
- 3) Sections and primary antibody were incubated at RT for 30 minutes.
- 4) Sections were incubated with a DAKO secondary, as per manufacturer's protocol.
- 5) Sections were then stained with DAB and H&E.
- 6) Sections were mounted with Faramount solution.
- 7) Result of staining was strong.

\*\*NOTE: normal colon mucosa and adenocarcinoma tissues were used as positive controls for this antibody.

### Immunocytochemistry/Immunofluorescence Protocol for Calreticulin Antibody (NB600-101)

#### Immunofluorescence Procedure

- 1) Cell cultures were treated using an HIER [heat-induced epitope retrieval] protocol.
- 2) Calreticulin polyclonal antibody [NB 600-101] was diluted 1:50 with a DAKO antibody diluent
- 3) Cultures and primary antibody were incubated at RT for 30 minutes.
- 4) Cultures were incubated with an Alexa green fluorescent secondary, as per manufacturer's protocol.
- 5) Cultures were observed on a Zeiss Axioconvert microscope and with DigiPix software.

\*\*NOTE: COS7 and HCT29 cell cultures were used as positive controls for this antibody.





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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

**For more information on our guarantee, please visit [www.novusbio.com/guarantee](http://www.novusbio.com/guarantee).**

