Human Calreticulin,CRT ELISA Kit

Product Code	CSB-E09787h
Abbreviation	CALR
Target Name	calreticulin
Uniprot No.	P27797
Alias	CRT, FLJ26680, RO, SSA, cC1qR, Sicca syndrome antigen A (autoantigen Ro; calreticulin)|autoantigen Ro
Product Type	ELISA Kit
Immunogen Species	Homo sapiens (Human)
Sample Types	serum, plasma, urine,tissue homogenates
Detection Range	0.156 ng/mL-10 ng/mL
Sensitivity	0.039 ng/mL
Assay Time	1-5h
Sample Volume	50-100ul
Detection Wavelength	450 nm
Lead Time	3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx.
Research Area	Tags & Cell Markers
Quality Control	A microplate reader capable of measuring absorbance at 450 nm, with the correction wavelength set at 540 nm or 570 nm. An incubator can provide stable incubation conditions up to 37°C±5°C. Centrifuge Vortex Squirt bottle, manifold dispenser, or automated microplate washer Absorbent paper for blotting the microtiter plate 50-300ul multi-channel micropipette Pipette tips Single-channel micropipette with different ranges 100ml and 500ml graduated cylinders Deionized or distilled water Timer Test tubes for dilution
Gene Names	CALR
Tag Info	quantitative
Protein Description	Sandwich
Component	A micro ELISA plate --- The 96-well plate has been pre-coated with an anti-human CRT antibody. This dismountable microplate can be divided into 12 x 8 strip plates.

Two vials lyophilized standard ---Dilute a bottle of the standard at dilution series, read the OD values, and then draw a standard curve.
One vial Biotin-labeled CRT antibody (100 x concentrate) (120 µl/bottle) ---Act as the detection antibody.
One vial HRP-avidin (100 x concentrate) (120 µl/bottle) ---Bind to the detection antibody and react with the TMB substrate to make the solution chromogenic.
One vial Biotin-antibodyDiluent (15 ml/bottle) ---Dilute the Biotin-antibody.
One vial HRP-avidin Diluent (15 ml/bottle) ---Dilute the HRP-avidin solution.
One vial Sample Diluent (50 ml/bottle)---Dilute the sample to an appropriate concentration.
One vial Wash Buffer (25 x concentrate) (20 ml/bottle) ---Wash away unbound or free substances.
One vial TMB Substrate (10 ml/bottle) ---Act as the chromogenic agent. TMB interacts with HRP, eliciting the solution turns blue.
One vial Stop Solution (10 ml/bottle) ---Stop the color reaction. The solution color immediately turns from blue to yellow.
Four Adhesive Strips (For 96 wells) --- Cover the microplate when incubation.
An instruction manual

Description

The product CSB-E09787h is a ready-to-use microwell, strip plate ELISA Kit for quantitatively detecting the amount of the Calreticulin (CRT/CALR) in human serum, plasma, urine, or tissue homogenates. This assay kit was designed and optimized for Tags & Cell Markers-related research in humans. It has undergone rigorous quality control in multiple parameters, including sensitivity, specificity, precision, linearity, recovery, and inter-batch difference. Refer to the product instructions for more details. This assay employs the quantitative sandwich enzyme immunoassay technique, in which CRT in the samples or standards are sandwiched between pre-coated CRT antibody and Biotin-conjugated CRT antibody. HRP-avidin is then added into the wells. Following a wash to remove any unbound reagent, the TMB substrate solution is added to the wells and color develops in proportion to the amount of CRT bound in the initial step. The color development is stopped upon adding the stop solution, and the intensity of the color is measured at 450 nm via a microplate reader. The levels of CRT in the samples can be determined by referring to the O.D. (optical density) of the samples to the standard curve.

CRT, also called CALR, is an endoplasmic reticulum (ER) chaperone protein involved in conformation-dependent molecular sorting of newly synthesized proteins (known as quality control (QC)). Within the ER, CALR normally binds misfolded proteins and retains them for ER-associated degradation (ERAD). Outside of the ER, CALR also participates in a variety of biological processes, including antigen processing and presentation for the adaptive immune response, cell adhesion/migration, cell proliferation, and immunogenic cell death. In the nucleus, CALR regulates gene expression and influences cell proliferation by suppressing interactions between retinoic acid receptor and its DNA response elements.

Target Details

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.

Product Precision

Intra-assay Precision (Precision within an assay): CV%<8%
Three samples of known concentration were tested twenty times on one plate to assess.
Inter-assay Precision (Precision between assays): CV%<10%
Three samples of known concentration were tested in twenty assays to assess.

Linearity

To assess the linearity of the assay, samples were spiked with high concentrations of human CRT in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.

?	Sample	Serum(n=4)
1:1	Average %	97
	Range %	92-101
1:2	Average %	93
	Range %	89-98
1:4	Average %	90
	Range %	85-95
1:8	Average %	104
	Range %	100-110

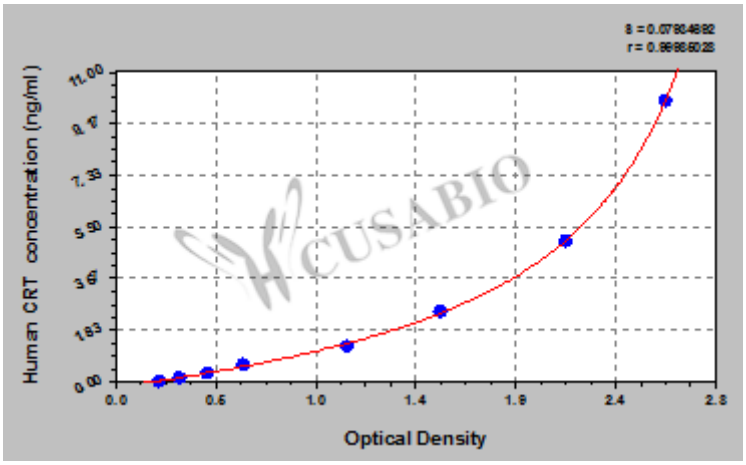
Recovery

The recovery of human CRT spiked to levels throughout the range of the assay in various matrices was evaluated. Samples were diluted prior to assay as directed in the Sample Preparation section.

Sample Type	Average % Recovery	Range
Serum (n=5)	84	80-89
EDTA plasma (n=4)	89	84-96

Typical

These standard curves are provided for demonstration only. A standard curve should be generated for each set of samples assayed.



ng/ml	OD1	OD2	Average	Corrected
10	2.608	2.572	2.590	2.370
5	2.172	2.072	2.122	1.902
2.5	1.511	1.563	1.537	1.317
1.25	1.106	1.093	1.100	0.880
0.625	0.633	0.597	0.615	0.395
0.312	0.429	0.464	0.447	0.227
0.156	0.322	0.310	0.316	0.096
0	0.221	0.219	0.220	?

Msds

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