



Human Catalase (CAT) ELISA kit

Product Code	CSB-E13635h
Abbreviation	CAT
Protein Biological Process 1	Oxidative Stress
Target Name	catalase
Uniprot No.	P04040
Alias	MGC138422, MGC138424
Product Type	ELISA Kit
Immunogen Species	Homo sapiens (Human)
Protein Biological Process 3	Hydrogen peroxide
Sample Types	serum, plasma, tissue homogenates
Detection Range	15.6 pg/mL-1000 pg/mL
Sensitivity	3.9 pg/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	Cancer
Quality Control	<p>A microplate reader capable of measuring absorbance at 450 nm, with the correction wavelength set at 540 nm or 570 nm.</p> <p>An incubator can provide stable incubation conditions up to 37°C±5°C.</p> <p>Centrifuge</p> <p>Vortex</p> <p>Squirt bottle, manifold dispenser, or automated microplate washer</p> <p>Absorbent paper for blotting the microtiter plate</p> <p>50-300ul multi-channel micropipette</p> <p>Pipette tips</p> <p>Single-channel micropipette with different ranges</p> <p>100ml and 500ml graduated cylinders</p> <p>Deionized or distilled water</p> <p>Timer</p> <p>Test tubes for dilution</p>
Gene Names	CAT
Tag Info	quantitative



Protein Description	Sandwich
Component	<p>A micro ELISA plate --- The 96-well plate has been pre-coated with an anti-human CAT antibody. This dismountable microplate can be divided into 12 x 8 strip plates.</p> <p>Two vials lyophilized standard ---Dilute a bottle of the standard at dilution series, read the OD values, and then draw a standard curve.</p> <p>One vial Biotin-labeled CAT antibody (100 x concentrate) (120 µl/bottle) ---Act as the detection antibody.</p> <p>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.</p> <p>One vial Biotin-antibodyDiluent (15 ml/bottle) ---Dilute the Biotin-antibody.</p> <p>One vial HRP-avidin Diluent (15 ml/bottle) ---Dilute the HRP-avidin solution.</p> <p>One vial Sample Diluent (50 ml/bottle)---Dilute the sample to an appropriate concentration.</p> <p>One vial Wash Buffer (25 x concentrate) (20 ml/bottle) ---Wash away unbound or free substances.</p> <p>One vial TMB Substrate (10 ml/bottle) ---Act as the chromogenic agent. TMB interacts with HRP, eliciting the solution turns blue.</p> <p>One vial Stop Solution (10 ml/bottle) ---Stop the color reaction. The solution color immediately turns from blue to yellow.</p> <p>Four Adhesive Strips (For 96 wells) --- Cover the microplate when incubation.</p> <p>An instruction manual</p>
Description	<p>This Human CAT ELISA Kit was designed for the quantitative measurement of Human CAT protein in serum, plasma, tissue homogenates. It is a Sandwich ELISA kit, its detection range is 15.6 pg/mL-1000 pg/mL and the sensitivity is 3.9 pg/mL.</p>
Target Details	<p>This gene encodes catalase, a key antioxidant enzyme in the bodies defense against oxidative stress. Catalase is a heme enzyme that is present in the peroxisome of nearly all aerobic cells. Catalase converts the reactive oxygen species hydrogen peroxide to water and oxygen and thereby mitigates the toxic effects of hydrogen peroxide. Oxidative stress is hypothesized to play a role in the development of many chronic or late-onset diseases such as diabetes, asthma, Alzheimer s disease, systemic lupus erythematosus, rheumatoid arthritis, and cancers. Polymorphisms in this gene have been associated with decreases in catalase activity but, to date, acatalasemia is the only disease known to be caused by this gene.</p>
Product Precision	<p>Intra-assay Precision (Precision within an assay): CV%<8%</p> <p>Three samples of known concentration were tested twenty times on one plate to assess.</p> <p>Inter-assay Precision (Precision between assays): CV%<10%</p> <p>Three samples of known concentration were tested in twenty assays to assess.</p>
Linearity	<p>To assess the linearity of the assay, samples were spiked with high concentrations of human CAT in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.</p>



?	Sample	Serum(n=4)
1:100	Average %	86
	Range %	80-92
1:200	Average %	97
	Range %	91-105
1:400	Average %	99
	Range %	92-110
1:800	Average %	93
	Range %	86-98

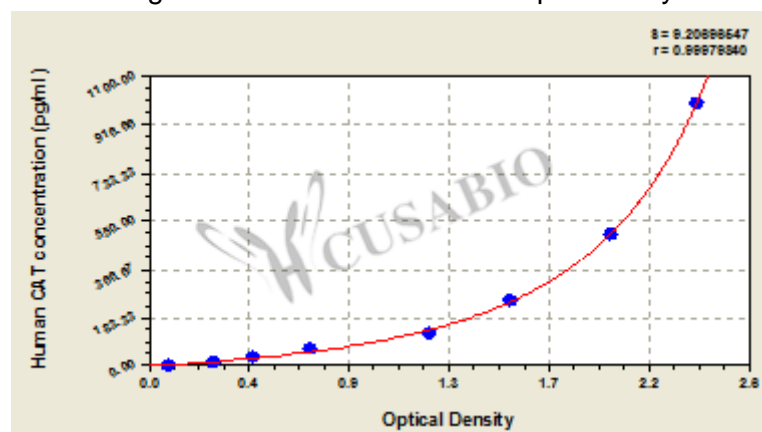
Recovery

The recovery of human CAT 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)	93	89-98
EDTA plasma (n=4)	97	90-100

Typical

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



pg/ml	OD1	OD2	Average	Corrected
1000	2.420	2.333	2.377	2.282
500	2.108	2.047	2.004	1.909
250	1.582	1.555	1.569	1.474
125	1.248	1.199	1.224	1.129
62.5	0.709	0.699	0.704	0.609
31.25	0.472	0.446	0.459	0.364
15.6	0.290	0.289	0.290	0.195
0	0.104	0.098	0.095	?

Msds

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