



# Human Caspase 1(Casp-1) ELISA Kit

<b>Product Code</b>	CSB-E13025h
<b>Abbreviation</b>	CASP1
<b>Protein Biological Process 1</b>	Apoptosis/Autophagy
<b>Uniprot No.</b>	P29466
<b>Product Type</b>	ELISA Kit
<b>Immunogen Species</b>	Homo sapiens (Human)
<b>Sample Types</b>	serum, plasma, tissue homogenates
<b>Detection Range</b>	1.56 ng/ml - 100 ng/ml
<b>Sensitivity</b>	0.39 ng/ml
<b>Assay Time</b>	1-5h
<b>Sample Volume</b>	50-100ul
<b>Detection Wavelength</b>	450 nm
<b>Lead Time</b>	3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx.
<b>Research Area</b>	Cell Biology
<b>Quality Control</b>	<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>
<b>Gene Names</b>	CASP1
<b>Tag Info</b>	quantitative
<b>Protein Description</b>	Sandwich
<b>Component</b>	<p>A micro ELISA plate --- The 96-well plate has been pre-coated with an anti-human Casp-1 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>



One vial Biotin-labeled Casp-1 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-antibody Diluent (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 Human Caspase 1 (Casp-1) ELISA Kit is suitable for quantitative detection of Casp-1 in serum, plasma, and tissue homogenates. Samples or standards are added into the microwells and bind to the anti-human Casp-1 antibody immobilized on the microplate. A sandwich is formed by the addition of the biotin-conjugated Casp-1 antibody. The TMB substrate solution is added that reacts with the enzyme-antibody-target complex to elicit a chromogenic reaction. The intensity of the solution color is directly proportional to the concentration of Casp-1 present in the original specimen. This kit has been verified with a wide detection range, high sensitivity, excellent specificity, precision less than 10%, good linearity, high recovery, and good consistency between lots. Refer to the product instructions for more verification details.

Casp-1 is synthesized as an inactive zymogen that is recruited and activated by inflammasomes. It plays a crucial role in cell immunity as an inflammatory response inhibitor. After activation by inflammasomes, Casp-1 initiates a pro-inflammatory response through the cleavage and subsequent activation of the two inflammatory cytokines, IL-1 $\beta$  and IL-18 as well as gasdermin D (GSDMD)-mediated pyroptosis, thus killing the infectious agent. In the absence of GSDMD, Casp-1 induces apoptosis involves the Bid-caspase-9-caspase-3 axis, which can elicit secondary necrosis/pyroptosis mediated by GSDME/DFNA5.

## Msds

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