



# Rat soluble cluster of differentiation 14,sCD14

## ELISA Kit

|                                     |                                                                                                          |
|-------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Product Code</b>                 | CSB-E11178r                                                                                              |
| <b>Abbreviation</b>                 | CD14                                                                                                     |
| <b>Protein Biological Process 1</b> | Immunity                                                                                                 |
| <b>Target Name</b>                  | CD14 molecule                                                                                            |
| <b>Uniprot No.</b>                  | Q63691                                                                                                   |
| <b>Alias</b>                        | CD14 antigen monocyte differentiation antigen CD14                                                       |
| <b>Product Type</b>                 | ELISA Kit                                                                                                |
| <b>Immunogen Species</b>            | Rattus norvegicus (Rat)                                                                                  |
| <b>Protein Biological Process 3</b> | Immunity                                                                                                 |
| <b>Sample Types</b>                 | serum, plasma, tissue homogenates                                                                        |
| <b>Detection Range</b>              | 28 ng/mL-1800 ng/mL                                                                                      |
| <b>Sensitivity</b>                  | 7 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>                | Immunology                                                                                               |
| <b>Gene Names</b>                   | Cd14                                                                                                     |
| <b>Tag Info</b>                     | quantitative                                                                                             |
| <b>Protein Description</b>          | Sandwich                                                                                                 |

### Description

The product CSB-E11178r is a sandwich ELISA kit developed to measure concentrations of rat sCD14 in serum, plasma, or tissue homogenates. This assay uses the sandwich enzyme immunoassay technique in combination with the enzyme-substrate chromogenic reaction to quantify the analyte in the sample. The color develops positively to the amount of sCD14 in samples. The color intensity is measured at 450 nm via a microplate reader.

CD14 is a GPI-anchored receptor expressed by macrophages (MΦ) and neutrophils, facilitating pro- and anti-inflammatory cytokine production in response to various DAMPs. It functions in the TLR4-MD2 complex to initiate and activate proinflammatory signaling events in response to gram-negative



bacteria through recognition of lipopolysaccharide (LPS). It plays a critical role in the phagocytic clearance of apoptotic cells and in the reactivation and immune recognition of microbial cell wall components of Gram-positive and Gram-negative bacteria. CD14 has also been reported to be upregulated during renal ischemia-reperfusion injury and in tubular epithelial cells of the kidney after unilateral ureteral obstruction.

**Target Details**

CD14 is a surface protein preferentially expressed on monocytes/macrophages. It binds lipopolysaccharide binding protein and recently has been shown to bind apoptotic cells. Alternative splicing results in multiple transcript variants encoding the same isoform.

**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 rat sCD14 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 % | 94         |
|     | Range %   | 86-100     |
| 1:2 | Average % | 99         |
|     | Range %   | 90-103     |
| 1:4 | Average % | 89         |
|     | Range %   | 83-92      |
| 1:8 | Average % | 95         |
|     | Range %   | 84-98      |

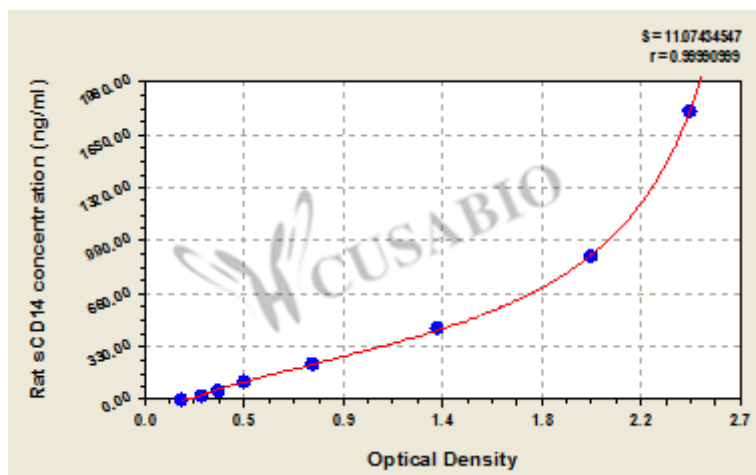
**Recovery**

The recovery of rat sCD14 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)       | 102                | 94-108 |
| EDTA plasma (n=4) | 96                 | 89-101 |

**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 |
|-------|-------|-------|---------|-----------|
| 1800  | 2.530 | 2.401 | 2.466   | 2.283     |
| 900   | 2.066 | 1.986 | 2.026   | 1.843     |
| 450   | 1.311 | 1.356 | 1.334   | 1.151     |
| 225   | 0.759 | 0.779 | 0.769   | 0.586     |
| 112.5 | 0.456 | 0.478 | 0.467   | 0.284     |
| 56    | 0.352 | 0.344 | 0.348   | 0.165     |
| 28    | 0.271 | 0.263 | 0.267   | 0.084     |
| 0     | 0.181 | 0.185 | 0.183   |           |

## Msds

{"0":{"fileurl":"https://www.cusabio.com/uploadfile/msds/MSDS CSB-E11178r.pdf","filename":"MSDS"}}