



## Product Information Sheet

### Mouse B7-1/CD80 ELISA Kit

<b>Catalog No.</b>	EK0708
<b>Size</b>	96T
<b>Range</b>	62.5pg/ml-4000pg/ml
<b>Sensitivity</b>	< 10pg/ml

#### Specificity

No detectable cross-reactivity with any other cytokine.

#### Storage

Store at 2-8°C for frequent use, at -20°C for infrequent use.

#### Expiration

Four months at 4°C and eight months at -20°C.

#### Application

For quantitative detection of mouse B7-1/CD80 in sera, body fluids, tissue lysates or cell culture supernates. The significance of detection in sera, plasma, body fluids is undetermined.

#### Principle

Mouse B7-1/CD80 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Mouse B7-1/CD80 specific-specific polyclonal antibodies were precoated onto 96-well plates. The mouse specific detection polyclonal antibodies were biotinylated. The test samples and biotinylated detection antibodies were added to the wells subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the mouse B7-1/CD80 amount of sample captured in plate.

#### Kit Components

1. Lyophilized recombinant mouse B7-1/CD80 standard: 10ng/tubex2.
2. One 96-well plate precoated with anti- mouse B7-1/CD80 antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti- mouse B7-1/CD80 antibody: 130µl, dilution 1:100.
5. Antibody diluent buffer: 12ml.
6. Avidin-Biotin-Peroxidase Complex (ABC): 130µl, dilution 1:100.
7. ABC diluent buffer: 12ml.
8. TMB color developing agent: 10ml.
9. TMB stop solution: 10ml.

#### Material Required But Not Provided

1. Microplate reader in standard size.
2. Automated plate washer.
3. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection.
4. Clean tubes and Eppendorf tubes.
5. Washing buffer (neutral PBS or TBS).

Preparation of 0.01M **TBS**: Add 1.2g Tris, 8.5g NaCl; 450µl of purified acetic acid or 700µl of concentrated hydrochloric acid to 1000ml H<sub>2</sub>O and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

Preparation of 0.01 M **PBS**: Add 8.5g sodium chloride, 1.4g Na<sub>2</sub>HPO<sub>4</sub>

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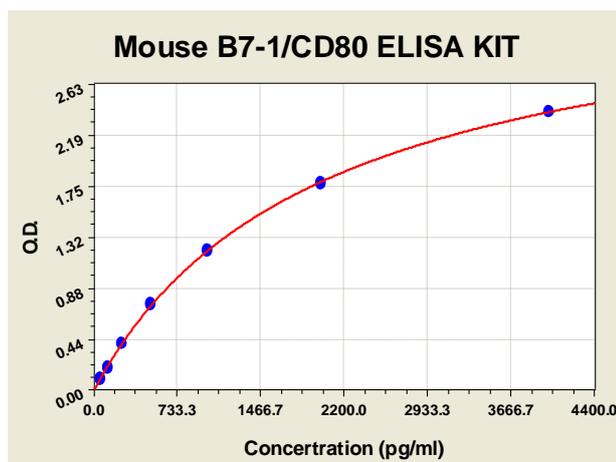
and 0.2g NaH<sub>2</sub>PO<sub>4</sub> to 1000ml  
distilled water and adjust pH to

7.2-7.6. Finally, adjust the total volume to 1L.

### Notice for Application of Kit

1. Before using Kit, spin tubes and bring down all components to bottom of tube.
2. Duplicate well assay was recommended for both standard and sample testing.
3. Don't let 96-well plate dry, dry plate will inactivate active components on plate.
4. In order to avoid marginal effect of plate incubation due to temperature difference (reaction may be stronger in the marginal wells), it is suggested that the diluted ABC and TMB solution will be pre-warmed in 37°C for 30 min before using.

### Mouse B7-1/CD80 ELISA Kit-1X96 Well Plate Image



### Background

The protein **CD80** (Cluster of Differentiation **80**) is a molecule found on activated B cells and monocytes which provides a costimulatory signal necessary for T cell activation and survival. It is also known as **B7.1**. The cDNA for B7-1 predicts a type I membrane protein, i.e., one synthesized with a signal peptide that is cleaved upon translocation across the endoplasmic membrane. The protein is predicted to contain 2 extracellular domains structurally similar to those of Ig, a hydrophobic transmembrane region, and a short cytoplasmic domain[1].The CD80 and CD86 (601020) genes encode B7-1 and B7-2, respectively, which are structurally similar members of the immunoglobulin superfamily expressed on a variety of hematopoietic cell types.[2] stated that B7-1 and B7-2 provide a costimulatory signal to T cells by interacting with CD28 and CTLA4. The standard product used in this kit is recombinant B7-1, D37—K245, which is composed of two single chains acids with the dipolymer.

### Reference

[1].Reeves, R. H., Patch, D., Sharpe, A. H., Borriello, F., Freeman, G. J., Edelhoff, S., Disteche, C. The costimulatory genes Cd80 and Cd86 are linked on mouse chromosome 16 and human chromosome 3. Mammalian Genome 8: 581-582, 1997.

[2].Selvakumar, A., Mohanraj, B. K., Eddy, R. L., Shows, T. B., White, P. C., Dupont, B. Genomic organization and chromosomal location of the human gene encoding the B-lymphocyte activation antigen B7. Immunogenetics 36: 175-181, 1992..

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