

**APD038Mu61 100µg**

**Active Immunoglobulin Kappa (Igk)**

**Organism Species: *Mus musculus (Mouse)***

***Instruction manual***

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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13th Edition (Revised in Aug, 2023)

## **[ PROPERTIES ]**

**Source:** Eukaryotic expression.

**Host:** 293F cell

**Residues:** Arg1~Cys107

**Tags:** N-terminal His-tag

**Purity:** >90%

**Endotoxin Level:** <1.0EU per 1µg (determined by the LAL method).

**Buffer Formulation:** PBS, pH7.4, containing 5% Trehalose .

**Original Concentration:** 200µg/mL

**Applications:** Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

**Predicted isoelectric point:** 5.7

**Predicted Molecular Mass:** 13.5kDa

**Accurate Molecular Mass:** 14kDa as determined by SDS-PAGE reducing conditions.

## **[ USAGE ]**

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

## **[ STORAGE AND STABILITY ]**

**Storage:** Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

**Stability Test:** The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

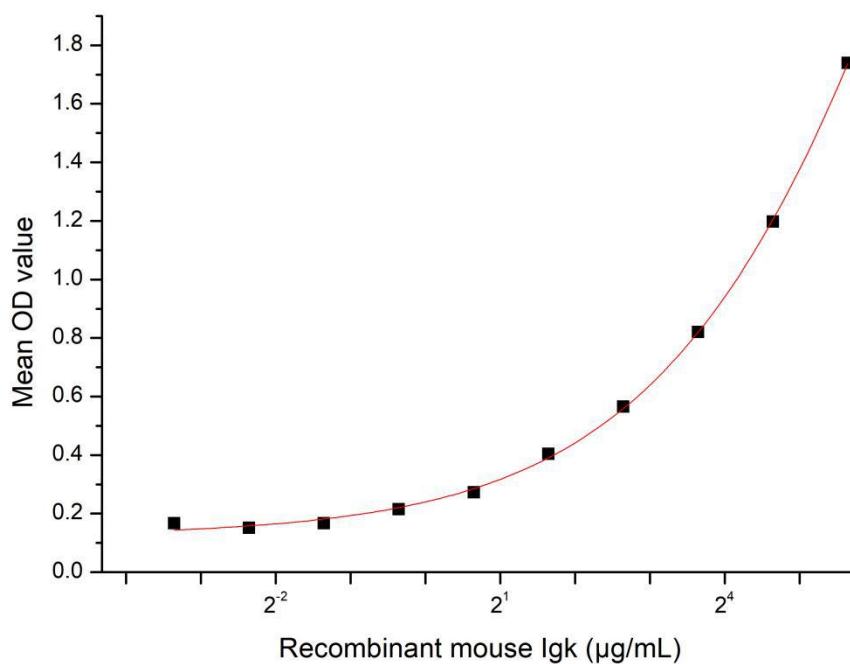
## [ SEQUENCE ]

RADAAPTVSIFPPSSEQLTSGGASVVCFLNNFYPKDINVKWKIDGSRQNGVLNSWTDQDSKDS  
TYSMSSTLTLTKDEYERHNSYTCEATHKTSTSPIVKSFNRNEC

## [ ACTIVITY ]

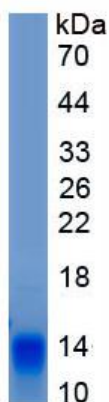
Immunoglobulin Kappa (Igk) is a type of light chain found in antibodies, which are critical components of the adaptive immune system . It associates with immunoglobulin heavy chains to constitute complete, functional antibody molecules, including but not limited to IgG and IgM classes. This pairing is essential for the structural integrity and antigen-binding capability of these immunoglobulins. In humans, the IGK gene located on chromosome 2 encodes this essential protein, which represents one of the two major light chain types - either kappa or lambda. The production of Igk chains is subject to stringent regulatory mechanisms to guarantee correct antibody formation. Impairments in Igk function may result in various immunological disorders, including immunodeficiency states and B-cell derived cancers. Clinically, kappa light chains have significant diagnostic value as biomarkers for detecting monoclonal gammopathies, particularly multiple myeloma. To detect the activity of recombinant Igk, a functional ELISA assay was performed to evaluate the interaction between recombinant mouse Igk and recombinant human IgM. Briefly, Igk was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100  $\mu$ l were then transferred to IgM-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-Igk pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37°C, wells were aspirated and washed 5 times. With the addition of substrate

solution, wells were incubated 15-25 minutes at 37 °C . Finally, add 50 µL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant mouse Igk and recombinant human IgM was shown in Figure 1, and this effect was in a dose dependent manner.



**Figure 1. The binding activity of recombinant mouse Igk and recombinant human IgM**

## [ IDENTIFICATION ]



**Figure 2. SDS-PAGE**

**Sample: Active recombinant Igk, Mouse**

## [ IMPORTANT NOTE ]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.