

**APX273Ge02 100µg**  
**Active Spike Protein (SP)**  
**Organism Species: *Pan-species (General)***  
***Instruction manual***

FOR RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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1st Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Met1~Arg685

**Tags:** N-terminal His Tag

**Purity:** >90%

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

**Buffer Formulation:** 20mM Tris, 150mM NaCl, pH8.0, containing 0.01% skl and 5% trehalose.

**Applications:** Cell culture; Activity Assays.

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

**Predicted isoelectric point:** 8.0

**Predicted Molecular Mass:** 60.1kDa

**Accurate Molecular Mass:** 60kDa as determined by SDS-PAGE reducing conditions.

## **[ USAGE ]**

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) 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.

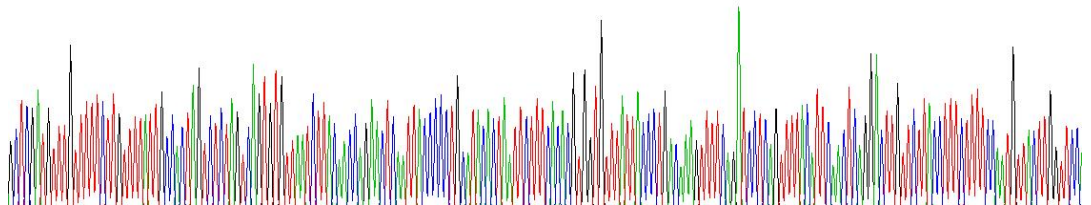
**Stability Test:** The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration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

## **[ SEQUENCE ]**

```
MFVFLVLLPLVSSQCVNLTTRTQLPPAYTNSFTRGVVYPDKVFRSSVLHSTQDLFLPFFSNVTWFHAIHVSGTNGTKRFDNPVLPFNDG
VYFASTEKSNIIIRGWIFGTTLDSTQSLIVNNATNVVIVKCEFCNDPFLGVYYHKNNKSWMESEFRVYSSANNCTFEYVSQPFMD
LEGKQGNFKNLREFVFKNIDGYFKIYSKHTPINLVRDLPQGFSALEPLVDLPIGINITRFQTLALHRSYLT PGDSSSGWTAGAAAYV
GYLQPRFTLLKYNENGITITDAVDCALDPLSETKCTLKSFTEVKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWNRK
RISNCVADYSVLVNSASFSTFKCYGVSPTKLNDLCFTNVYADSFVIRGDEVQRQIAPGQTGKIADYNYKLPDDFTGCVIAWNSNNLDSKV
GGNYNYLYRLFRKSNLKPFFERDISTEIQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVGYPYRVVLSFELLHAPATVCGPKKSTNLV
KNKCVNFNFNGLTGTGVLTESNKKFLPFQQFGRDIAADTTDAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPVA
IHADQLTPTWRVYSTGSNVFQTRAGCLIGAHEVNNSEYCDIPIGAGICASYQTQTNSPRRAR
```

## **[ ACTIVITY ]**

The coronavirus spike (S) glycoprotein is a class I viral fusion protein on the outer envelope of the virion that plays a critical role in viral infection by recognizing host cell receptors and mediating fusion of the viral and cellular membranes. The S proteins consist of two subunits, S1 and S2. Besides, S1 binding to ACE2 and CLEC4M/DC-SIGNR receptors and internalization of the virus into the endosomes of the host cell induces conformational changes in the S glycoprotein. Thus a binding ELISA assay was conducted to detect the interaction of recombinant human ACE2, mouse ACE, rat ACE2 and recombinant Spike glycoprotein (S1). Briefly, ACE were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100µl were then transferred to S1-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-ACE2 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50µl stop solution to the wells and read at 450nm immediately. The binding activity of ACE2 and S1 was shown in Figure 1, and this effect was in a dose dependent manner.

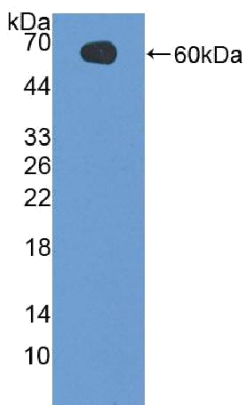
[illegible]

**Figure 2. Gene Sequencing (extract)**



**Figure 3. SDS-PAGE**

**Sample: Active recombinant SP, General**



**Figure 4. Western Blot**

**Sample: Recombinant SP, General;**

**Antibody: Rabbit Anti-General SP Ab (PAX273Ge02)**

## **[ 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.