**Methods：**

**1、Cell viability assay**

The viability of the A549 cells was detected using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl-2H-tetrazolium bromide (MTT) assay (KGA311, Keygen Biotech, China), according to the manufacturer's protocol.
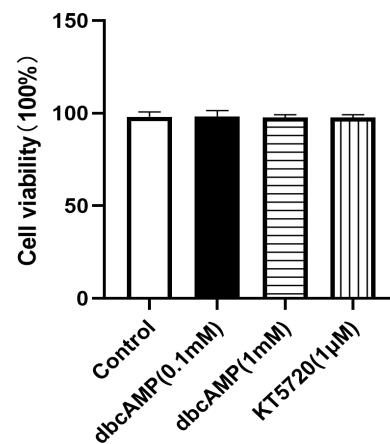
**2、Immunofluorescence staining**

The A549 cells were exposed to sucrose-cushioned purified RSV (MOI = 1) . After 48 h of infecting, the infected A549 cells were fixed for 48 min with 4% paraformaldehyde and subsequently permeabilised with PBS containing 0.5% Triton-100 for 15 minutes and finally blocked with 5% BSA blocking solution for 1 h. The cells were incubated with an anti-RSV primary antibody (1:100 dilution) (Thermo Fisher Scientific, USA) at 4°C, followed by incubation with an Alexa Fluor 647 donkey anti-goat IgG antibody (1:200 dilution) (Thermo Fisher Scientific, USA) for 1 h and 4',6-diamidino-2-phenylindole for 5 min; the cells were then washed with PBS five times for 5 min, and the cell fluorescence intensity was assessed using fluorescence microscopy.

**3、Statistical analysis**

GraphPad Prism 5.1 software (GraphPad software, San Diego California, USA) was used for data analysis. The experiments were performed in triplicates and analysed using a two-tailed Student's t-test. The relationship between the MUC1 and IL-6, IL-8, IL-1β protein levels was assessed using Person's correlation coefficient analysis.

**Figures:**
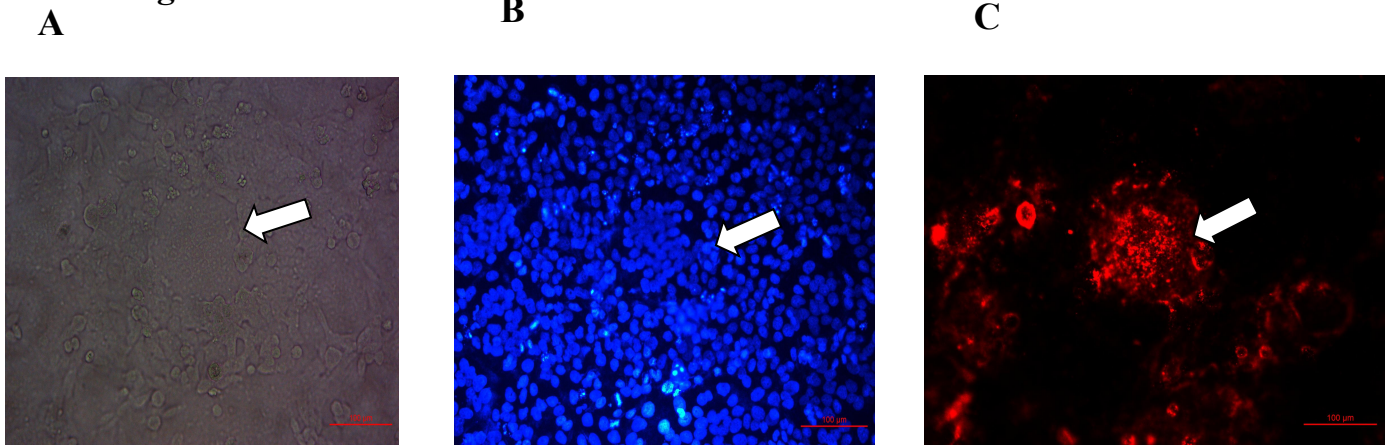
**Figure 1**



The Cell viability of the A549 cells treated with dbcAMP or KT5720 detected by using the MTT assay

**Figure 2**

A                                       B                                       C
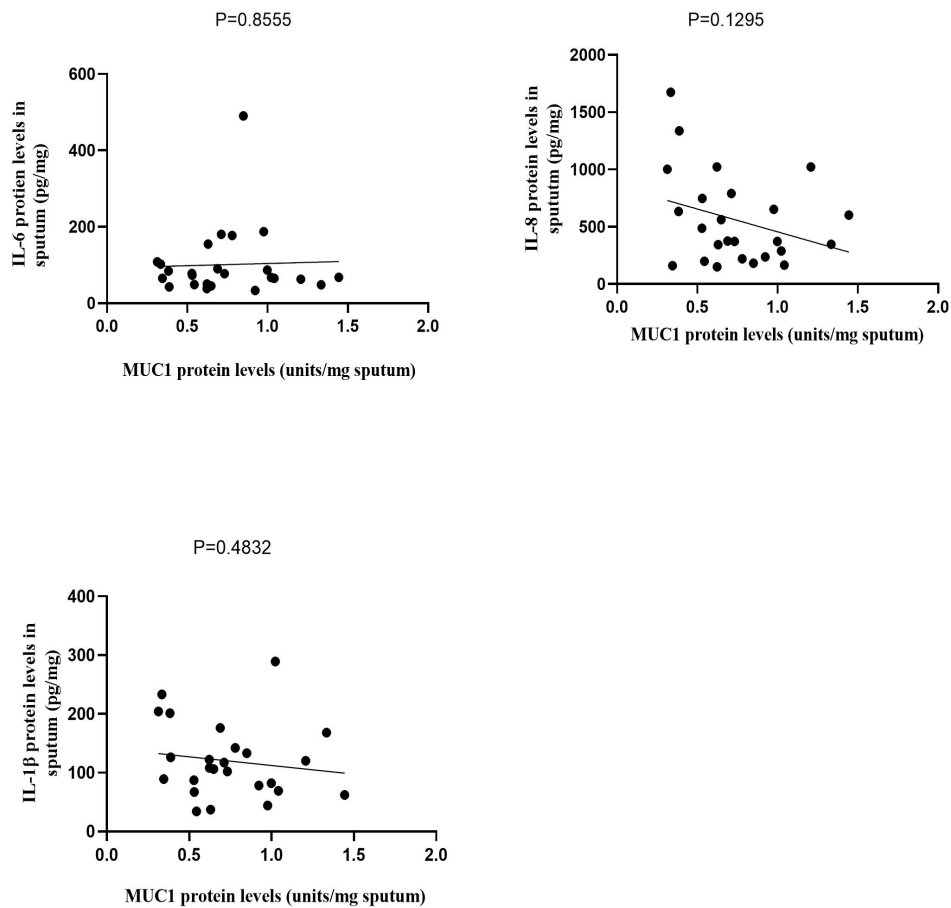
The Immunofluorescence staining of RSV primary antibody in A549

cells after infection

A, Cell state under normal light; B, the cell nuclei counterstained with

DAPI (blue); C, the cell stained with the RSV antibody (red)

The white arrow points to the formation of RSV-induced large syncytia.

**Figure3**



the relationship between the MUC1 protein levels and IL-6, IL-8, and

IL-1β protein levels