

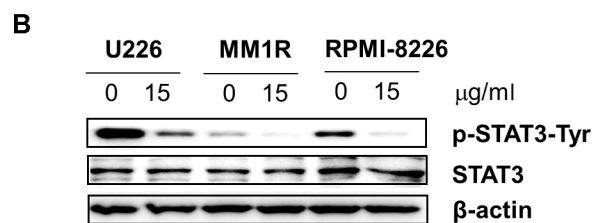
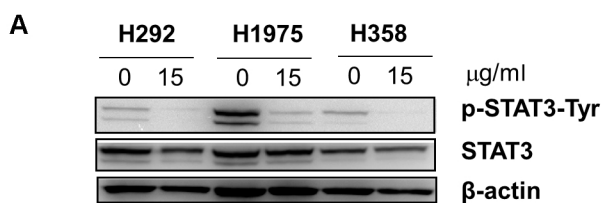
## Supplementary Figure legends

**Supplementary Figure S1. Physalis alkekengi var. franchetii extracts inhibited STAT3 activation in NSCLC and MM cells.** Three NSCLC cell lines (A) and three MM cell lines (B) were treated with physalins for 4 h. The levels of p-STAT3-Tyr, STAT3 and  $\beta$ -actin were detected by western blot analysis.

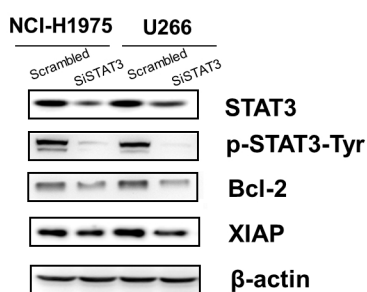
**Supplementary Figure S2. STAT3 knockdown repressed the downstream antiapoptotic proteins induced by STAT3.** NCI-H1975 cells were transfected with scrambled siRNA or siSTAT3 for 24 h, and the levels of p-STAT3-Tyr, STAT3, Bcl2, XIAP and  $\beta$ -actin were detected by western blot analysis.

**Supplementary Figure S3. The combination of the physalins increased the cell apoptosis rate and inhibited STAT3 activation.** (A) NCI-H1975 cells were treated with physalin A, physalin O or physalin L separately (3.9  $\mu$ g/ml, 7.8  $\mu$ g/ml and 1.9  $\mu$ g/ml) or together for 24 h, and Annexin V-FITC/PI assays were performed with flow cytometric analysis. (B) NCI-H1975 cells were treated with physalin A, physalin O or physalin L separately (3.9  $\mu$ g/ml, 7.8  $\mu$ g/ml and 1.9  $\mu$ g/ml) or together for 4 h. The levels of p-STAT3-Tyr, STAT3 and  $\beta$ -actin were detected by western blot analysis.

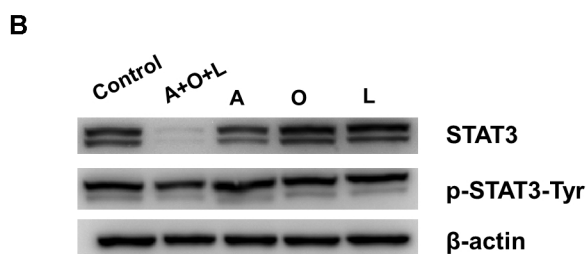
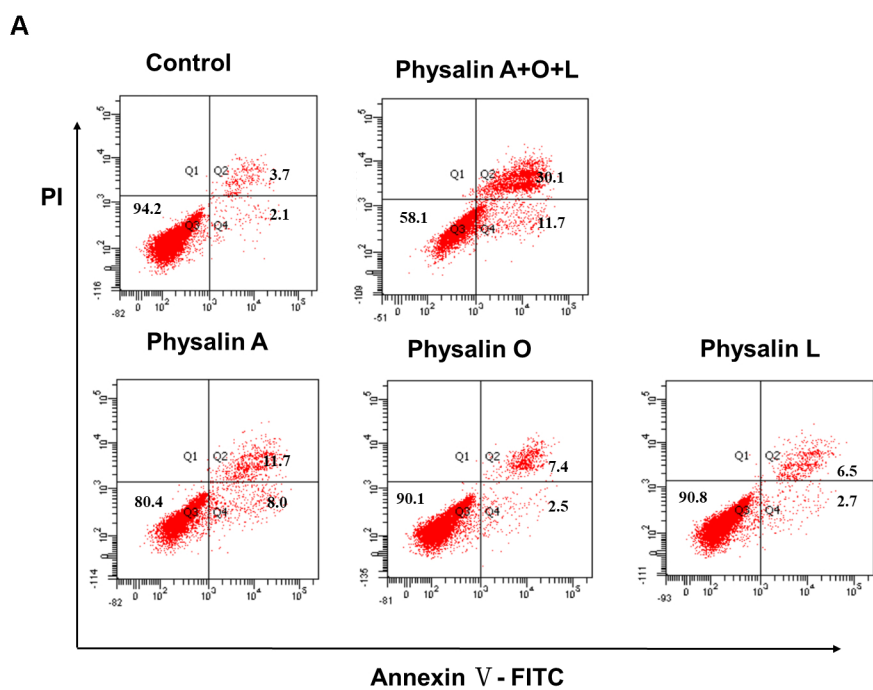
Suppl. Fig. S1



Suppl. Fig. S2



Suppl. Fig. S3



**Supplementary Table 1.** Inspection report of *Physalis alkekengi var. franchetii*.

Hangzhou Huadong Chinese crude Co.

**Inspection Report**

Report No. C151229-6

No. RD-02-008-00

<b>Product Name</b>	Physalis alkekengi var. franchetii	<b>Specification</b>	Crude drug
<b>Origin</b>	Shangdong	<b>Date in Produced</b>	2015/12/27
<b>Lot No.</b>	151227	<b>Number of samples</b>	100g
<b>Provider</b>	General drug materials production area	<b>Packaging</b>	Polyethylene plastic tape
<b>Test Purpose</b>	Quality inspection	<b>Check List No.</b>	C151227-1
Test Item	All items	<b>Sample Tested Date</b>	2015/12/29
Test standard	<i>Zhejiang traditional Chinese medicine processing standard (2005 Edition, QS-01-0000-03)</i>	<b>Report Date</b>	2015/12/29

**Test Item**

**Standard order**

**Test results**

[Qualitative character]

Meet the requirements

Meet the requirements

[Residual sulfur dioxide]

<150mg/kg

Not detected

**Test conclusion:** According to *Zhejiang traditional Chinese medicine processing standard (2005 Edition, QS-01-0000-03)*, this product passed standard tests.