*Supporting Information*

# Litchi Products as Dermatological Agents and Their Active Components

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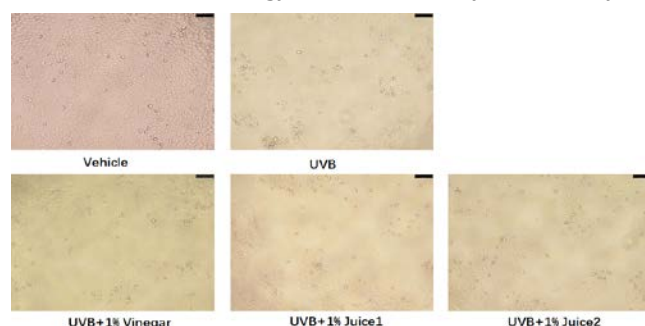
**Suppl Figure 1**. HaCaT cell morphological changes after UVB irradiation of 150 mJ/cm$^2$ for xx min. After the treatment with litchi vinegar and litchi juices, the number of shrunk cells decreased, the surface of cells tended to be flatter and cell condition improved. Bar indicates 25 μm.
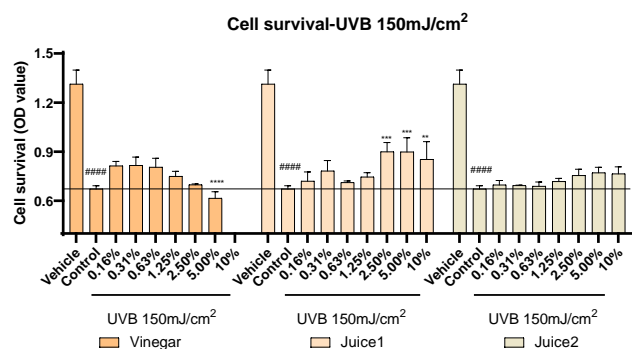


**Suppl Figure 2**. The cell survival protection of litchi vinegar and litchi juice after adjusting the pH. The cell survival indexes of litchi vinegar (1.25%～0.16% concentration) group and litchi juice 1 (10%～2.5% concentration) increased ($p < 0.05$ for juice 1) indicating the cells were protected by litchi vinegar and litchi juices. At higher litchi vinegar concentration (10%～2.5%) with adjusted pH, cell growth was partially inhibited due to lower pH. But adding NaOH produced salt and caused cell death. Again, litchi vinegar still demonstrated better efficacy than litchi juices. The data set was expressed as mean ± SD, n = 3. Compared with the vehicle group, ####$p<0.0001$; Compared with the control group, **$p<0.01$, ***$p<0.001$, ****$p<0.0001$.

**Cell survival-Poly(I:C) 50 µg/mL**
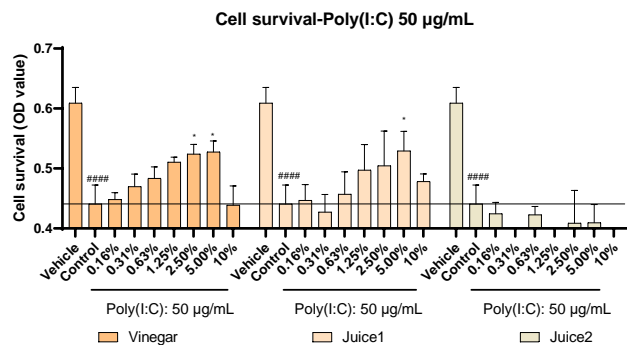
**Suppl Figure 3**. Effect of pH adjusted Litchi vinegar and litchi juice on HaCaT survival when treated with 50 µg/mL poly(I:C) The data set was expressed as mean ± SD, n = 3. Compared with the vehicle group, ####$p<0.0001$; Compared with the control group, *$p<0.05$.

When the cells were pretreated with 1% litchi vinegar and 1% juices (1 and 2) (no pH adjustment) and then stimulated with poly(I:C), the number of cells was increased. Litchi juice 1 and litchi vinegar (tendency) demonstrated the best cell protection against poly(I:C) treatment, whereas litchi juice 2 had no significant effect.



**Cell survival-Poly(I:C) 1 µg/mL**
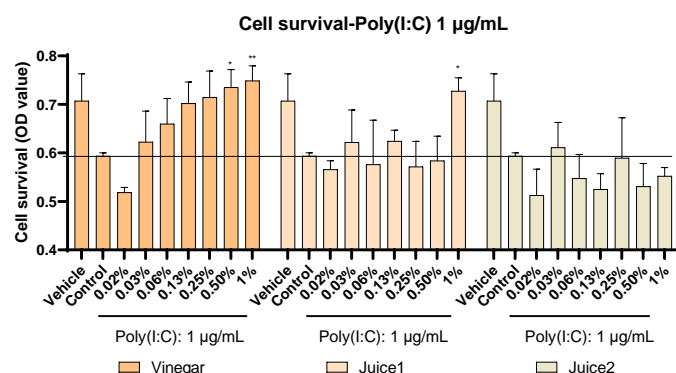
**Suppl Figure 4**. pH adjusted Litchi vinegar and litchi juices effect on HaCaT survival when treated with 1 µg/mL poly(I:C). The data set was expressed as mean ± SD, n = 3. Compared with the vehicle group, ##$p<0.01$; Compared with the control group,*$p<0.05$, **$p<0.01$.



**Cell survival-Poly(I:C) 1 µg/mL**
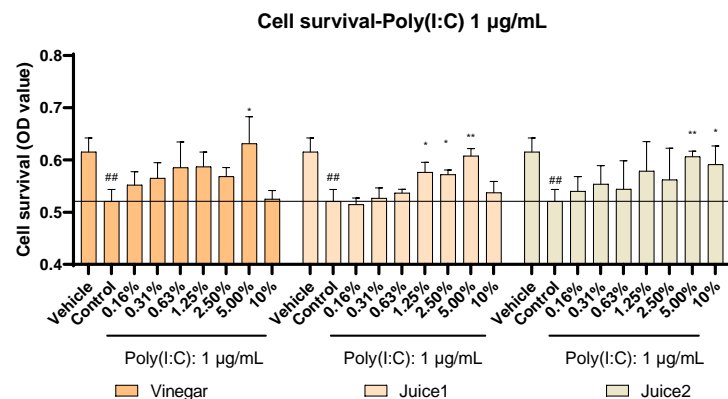
**Suppl Figure 5**. Without pH adjustment, litchi vinegar and litchi juices improved cell survival. The data set was expressed as mean ± SD, n = 3. Compared with the vehicle group, #$p<0.05$, ##$p<0.01$, ###$p<0.001$,####$p<0.0001$; Compared with the control group, *$p<0.05$, **$p<0.01$.
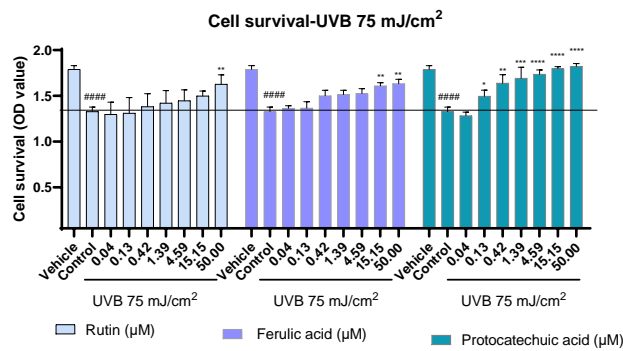
**Suppl Figure 6**. Effects on cell survival following UVB irradiation. Cell survival following treatment with epicatechin or chlorogenic acid with irradiation with 75 mJ/cm$^2$. Cell survival following treatment with rutin, ferulic acid and protocatechuic, respectively, with irradiation with 75 mJ/cm$^2$. The data set was expressed as mean ± SD, n = 3. Compared with the vehicle group, $^{####}p<0.0001$; Compared with the control group, $^*p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$, $^{****}p<0.0001$.
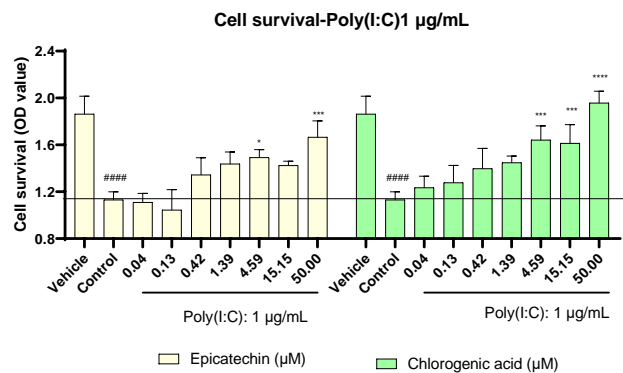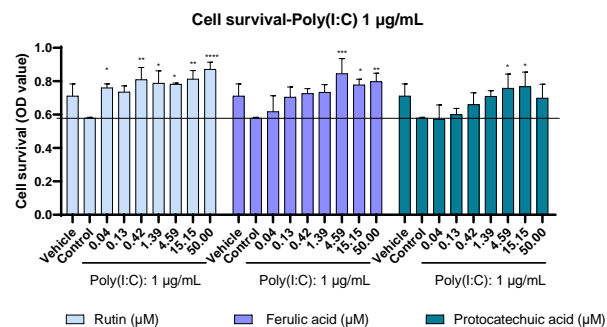
**Suppl Figure 7**. Assay results in poly(I:C) model (1 μg/mL). Epicatechin and chlorogenic acid significantly protected the cells from the death caused by poly(I:C) stimulation (at 1 μg/mL). Rutin, ferulic acid and protocatechuic acid significantly protected the cells from the death caused by poly(I:C) stimulation (at 1 μg/mL). The data set was expressed as mean ± SD, n = 3. Compared with the vehicle group, $^{####}p<0.0001$; Compared with the control group, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$, $^{****}p<0.0001$.