

| standard compound          | retention time<br>(min) | area     | HPLC peak            | retention time<br>(min) | area   |
|----------------------------|-------------------------|----------|----------------------|-------------------------|--------|
| narirutin<br>(1.72 mM)     | 22.245                  | 3385838  | A<br>(narirutin)     | 22.294                  | 562362 |
| naringin<br>(1.72 mM)      | 23.065                  | 2932094  | B<br>(naringin)      | 23.095                  | 474515 |
| hesperidin<br>(1.64 mM)    | 23.782                  | 3665679  | C<br>(hesperidin)    | 23.744                  | 953614 |
| neohesperidin<br>(1.64 mM) | 24.470                  | 3534963  | D<br>(neohesperidin) | 24.500                  | 824369 |
| sudachitin<br>(2.78 mM)    | 41.113                  | 39898784 | E<br>(sudachitin)    | 41.044                  | 317713 |

**Figure S1.** HPLC chromatogram of the aqueous extract from *C. sudachi* peel. The phenolic compounds were identified by direct comparison of their UV spectra and retention times measured from the peak at 340 nm with the standard compounds.



**Figure S2.** Effects of some phenolic compounds included in SPE on ERK1/2 phosphorylation at the high concentrations. HaCaT cells were treated with 100  $\mu$ M hesperidin, 100  $\mu$ M naringin, or 100  $\mu$ M sudachitin for 1 h. Then, the cell lysates were prepared and immunoblotted with anti-ERK1/2 and anti-phospho-ERK1/2 antibodies. The levels of phosphorylated ERK1/2 were normalized to the levels of the total ERK1/2. The data were expressed as the mean  $\pm$  SE derived from at least three independent experiments, and statistical analysis was performed by ANOVA with Bonferroni's multiple comparison test. \* p < 0.05.