

**Table S1.** Inhibitory effects of arbutin on the activity of tyrosinase and oxidation of L-DOPA.

Arbutin ( $\mu$ M)	Inhibition rate of tyrosinase activity (%)	Inhibition rate of L-DOPA oxidation (%)
0	0	0
72	44.25 $\pm$ 2.39	-
360	74.81 $\pm$ 7.54	-
720	70.74 $\pm$ 4.76	-
900	73.88 $\pm$ 5.39	46.28 $\pm$ 0.40
1,835	83.57 $\pm$ 6.74	50.80 $\pm$ 4.11
3,670	- <sup>a</sup>	63.01 $\pm$ 6.81
7,340	-	73.34 $\pm$ 5.36
11,010	-	73.21 $\pm$ 1.77
14,680	-	88.22 $\pm$ 2.25

<sup>a</sup>: No measurement. IC<sub>50</sub> concentration of arbutin to inhibit tyrosinase activity: 126  $\pm$  23.11  $\mu$ M. IC<sub>50</sub> concentration of arbutin to inhibit L-DOPA oxidation: 3,279.74  $\pm$  17.14  $\mu$ M.