

## Investigation of the skin whitening and anti-oxidant activity in different parts of *Morus bombycis*

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### Abstract

We investigated the skin whitening and anti-oxidant activity about *Morus bombycis* extracts originated from the bark and heartwood of middle size branch, and the bark of a root. Also, the resveratrol which is contained in *Morus bombycis* as a bio-active compound was measured about each extracts. *In vitro* tyrosinase inhibitory effect assay was applied for evaluating the skin whitening activity about *Morus bombycis* extracts. As a result, all extracts showed a higher activity in comparison with arbutin ( $IC_{50} > 300 \mu\text{g}/\text{mL}$ ). Particularly, *Morus bombycis* heartwood extract was found to have the highest activity ( $IC_{50} < 1 \mu\text{g}/\text{ml}$ ) than other extracts. Also, it exhibited the highest anti-oxidant activity with  $SC_{50}$  of  $10 \mu\text{g}/\text{mL}$  than other extracts in the results of the DPPH (1,1-diphenyl-2-picrylhydrazyl) radical scavenging activity measurement<sup>1)</sup> and DCF-DA (dichlorofluorescein diacetate) method for intracellular reactive oxygen species measurement<sup>2)</sup>. In order to prove the above results, we investigated the resveratrol content in each extracts by HPLC analysis. *Morus bombycis* heartwood extract showed the highest content with 0.418 % (resveratrol weight / ethanol extracts dry weight). Finally, we confirmed that the resveratrol acts as a main compound of the skin whitening and anti-oxidant activity in *Morus bombycis* heartwood extract.

### References

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