

Anti-Oxidant Activities of Paeoniflorin Derivatives

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We previously showed that the root extract of *Paeonia lactiflora* Red Charm might have anti-oxidant activities, however it was not clear which components might be involved in this activity. Our bioinformatics analysis indicated the root extracts of *Paeonia lactiflora* Red Charm has a couple of potential anti-oxidant materials. One of them is paeoniflorin. We hypothesized that one of components present in *Paeonia lactiflora* Red Charm, paeoniflorin and its derivatives might be related to anti-oxidant activity. In this study, we compared paeoniflorin and its derivatives with the root extract of *Paeonia lactiflora* Red Charm using DPPH assays to measure its antioxidant activities.

Paeoniflorin showed the highest radical scavenging activity(%) in 1000 μ g/ml. its derivative showed the high levels radical scavenging activity(%) in 600 μ g/ml, 800 μ g/ml, 1000 μ g/ml similar to ascorbic acid.

Taken together, these results suggest that Paeoniflorin and its derivatives may play a role in anti-oxidant activity in the root extracts of *Paeonia lactiflora*. Much of future studies may be needed to develop a potential new anti-oxidant candidates with anti-aging and anti-cancer effects.

Keywords: *Paeonia lactiflora*, Paeoniflorin, Antioxidant activities, DPPH assay