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 boinformatics 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 1000µg/ml, its derivative showed the high levels radical scavenging activity(%) in 600µg/ml, 800µg/ml, 1000µg/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