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Synergistic study of *Salvia miltiorrhizae* Radix & Rhizoma (Danshen) and *Notoginseng Radix* (Sanqi) combinations for anti-oxidant activity

Xian Zhou[1], **Raynold Mendoza**[1], **Valetina Razmovski-Naumovski**[1,2] and **Kelvin Chan**[1,2]
[1]University of Western Sydney, Australia
[2]The University of Sydney, Australia

Salvia Miltiorrhiza Radix & Rhizoma (Danshen) and Notoginseng Radix (Sanqi)combinations are frequently used in traditional Chinese medicine (TCM)for the treatment of cardiovascular (CVS)complications. Both herbs have shown varying degrees of antioxidant activity as single extracts.However, there are no studies that show the synergismof the two herbs. This study examined the synergistic contribution of the Danshen/Sanqi combination on antioxidant activity. Danshen andSanqi were extracted in water; then the dried residues by methanol. The varying ratios of themethanolic extracts of Danshen and Sanqi(5:1, 5:2, 5:3, 4:1 and 4:2) were assessed for anti-oxidant activity using 2,2'-azinobis-3-ethylbenzothiazoline-6-sulfonicacid (ABTS)scavenging assay.The synergistic effect wasdetermined using the median-effect method as analysed by the "CalcuSyn" software (Cambridge, UK). The single extracts of Danshen and Sanqi showed ABTS scavenging activity in a dose-dependent manner, with IC50 values at 0.41 and 1.45 mg/mL, respectively. Among the tested ratios,the combinationsof 5:1, 5:3 and 4:2 showed a stronger anti-oxidant activity compared to the individual extracts, with IC50 valuesof 0.31,0.34 and 0.35 mg/mL, respectively. Most notably, the combinational extract in the ratio of 5:1 demonstrated synergy when the dosage was higher than 0.36 mg/mL. This ratiowas found to be similar to the traditional ratio (Danshen: 10-15g; Sanqi: 3-6g)which is used for removing blood stasis and relieving pain. Therefore, examining typical paired herbs in this manner may confirm their clinical application in TCM practice and support their use in the treatment of CVS complications.

Biography

Xian Zhou obtained her Master of Herbal Medicines (Hons) at The University of Sydney analysing *Pueraria Lobata Radix* and *Pueraria Thomsonii Radix*. Currently, she is a PhD candidate with the National Institute of Complementary Medicine at University of Western Sydney. She is studying the synergy of *Panax Notoginseng Radix* in combination with *Salvia Miltiorrhiza Radix* & Rhizomeusing cell biology approaches.

17584959@student.uws.edu.au