

Antioxidant activity and wound healing functional evaluation of velvet antler as a traditional Chinese uses

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ABSTRACT

Velvet antler has been recorded in the Chinese medical classics Shen Nong Ben Cao Jing (神農本草經) 2000 years ago. Velvet antler is believed to nourish the Yin, tonify the kidney, invigorate the spleen, strengthen bones and muscles, and promote blood flow, has been recorded in the Chinese medical classics Shen Nong Ben Cao Jing. In China, velvet antler has traditionally been prepared by decocting in water. In this method, velvet antler was cut into thin slices and placed in boiling water and decocted repeatedly to get a glue solution. Velvet antler was extracted of distilled water in boiling-water bath for 2 h, then aqueous extract velvet antler(AEVA) was obtained by filtering. Other unidentified components with antioxidant activity might be present in AEVA-SII. To further unravel potentially antioxidant activity of AEVA, other unidentified active components should be further clarified. Velvet antler was extracted of distilled water in the hot water bath for 3 hr. After filtration and freeze-drying, then aqueous antler extract (AAE) was obtained. AAE showed the potential cognitive-enhancing activity by regulating cholinergic marker enzyme activities and promoting the antioxidant system. Proliferation activity of the rVAP32 (3.2 kDa recombinant velvet antler polypeptide) and nVAP32 (3.2 kDa native velvet antler polypeptide) was assayed by the MTT method. The wound-healing efficacy of rVAP32 was always slightly weaker than that of nVAP32 in comparative tests and we speculate that this recombinant polypeptide might lack necessary post-translational modifications during synthesis in the prokaryotic expression system.

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