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Antioxidative Activity of *Allium victorialis* L. Extracts

Yoshiaki Shirataki (白瀧 義明)¹, Noboru Motohashi², Satoru Tani (谷 覺)¹, Katsuyoshi Sunaga (須永 克佳)¹, Hiroshi Sakagami³, Kazue Satoh³, Hideki Nakashima⁵, Taisei Kanamoto⁵, Kristina Wolfard⁵ and Joseph Molnar⁶

¹Faculty of Pharmaceutical Sciences, Josai University, Sakado, Saitama 350-0295, Japan; ²Meiji Pharmaceutical University, Kiyose, Tokyo 204-8588, Japan ; ³Department of Dental Pharmacology, Meikai University School of Dentistry, Saitama 350-0283, Japan; ⁴Analysis Center, School of Pharmaceutical Sciences, Showa University, Shinagawa, Tokyo, Japan; ⁵Department of Microbiology and Immunology, Kagoshima University Dental School, Kagoshima-shi, Kagoshima, Japan; ⁶Faculty of Medicine, Institute of Microbiology, Albert Szent-Gyorgyi Medical University, Dom ter 10, H-6720 Szeged, Hungary

Allium victorialis L. (Liliaceae, "Hon-Gyoujya Nin-niku" in Japanese) was successively extracted with hexane, acetone, methanol and 70% methanol and the extracts were further separated into a total of twenty-five fractions by silica gel and ODS column chromatographies. The biological activities of these four extracts and 25 column fractions were compared. The cytotoxic activity of all extracts and fractions against two oral tumor cell lines was significantly higher than that against normal human gingival fibroblasts, suggesting their tumor-specific action. Three methanol column fractions [M2, M3, M6] and a 70% methanol column fraction [70M6] most effectively reversed the multidrug resistance (MDR) against L5178 mouse T cell lymphoma. The electron spin resonance (ESR) spectroscopy showed that methanol column fractions and 70% methanol extract produced the highest amount of radical(s) and most efficiently scavenging $O_2 \cdot^-$, generated by the hypoxanthine-xanthine reaction system, suggesting that the same substances in these fractions display both prooxidant and antioxidant properties. They showed no anti-human immunodeficiency virus (HIV) or anti-*Helicovacter pylori* activity. These data suggest the medicinal efficacy of *Allium victorialis* extract.