

흰민들레 추출물의 항균활성 검색
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Antimicrobial Activities of Korean dandelion
 (*Taraxacum coreanum* Nakai.) extract

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Objectives

Korean dandelion (*Taraxacum coreanum* NAKAI.), a traditional Korean medicine, has been used in the treatment of a women's disease and diuretic and anti-inflammatory medicine. The content of the bioactive compounds as well as physiological and antioxidant activities in this plant have not been systematically researched. Therefore, in the present study, The antimicrobial activity of Korean dandelion were evaluated paper disk diffusion assay.

Materials and Methods

oPreparation of plant extracts : Fresh Korean dandelion were rinsed with water and freeze dried immediately. Dried plants were ground in a chilled mortar. The powder sample was extracted with methanol (10ml of 70% methanol/g of plant) at room temperature for 24h. The extracts were filtered, followed by rotary evaporator under 50°C. The concentrated extracts were dissolved in water and kept on the dark at -4°C.

oPaper disc diffusion assay : The antimicrobial activities of the Korean dandelion extract were determined by paper disc diffusion assay. The microorganisms was grown in liquid medium for 16 h to yield a final concentration of $10^5 \sim 10^6$ CFU/ml. Next, aliquots of 0.1 ml of the test microorganisms were spread over the surface of agar plates. Sterilized filter paper discs were saturated with 20 μ l of the plant extract at 10 mg/ml. The soaked discs were then placed in the middle of the plates and incubated for 24 h, after which the diameter of each inhibitory zone was measured.

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Results

The antimicrobial activities in various fractions of the Korean Dandelion extract was measured by a paper disc diffusion assay. The maximal inhibitory zones for each of the microorganisms that was active to the Korean dandelion extract against *S. aureus*, *S. epidermis*, *P. aeruginisa* and *P. aeruginisa*, were in the range of 29±0.3, 28±0.7, 31±1.1 and 32±0.6 mm, respectively. The results indicated variation in the antimicrobial properties of the Korean dandelion extract. The extract of Korean dandelion showed the highest level of antimicrobial activity, especially against *P. aeruginisa*.

Table 1. Inhibition effect of the methanol extract from Korean dandelion against the microorganisms.

Sample	Size of clear zone (mm) ¹⁾
Gram positive bacteria	
<i>Staphylococcus aureus</i> (KCCM 11764)	29±0.3 ¹⁾
<i>Listeria monocytogens</i> (ATCC 15313)	-
<i>Bacillus subtilis</i> (ATCC 6633)	-
<i>Staphylococcus epidermis</i> (KCCM 35494)	28±0.7
<i>Propionibacterium acnes</i> (KCCM 41747)	31±1.1
Gram negative bacteria	
<i>Escherichia coli</i> (ATCC 25922)	-
<i>Ealmonella typhymurium</i> (KCCM 40253)	-
<i>Vibrio parahaemdyticus</i> (ATCC 17802)	-
<i>Pseudomonas aeruginisa</i> (ATCC 27853)	32±0.6
<i>Proteus mirabilis</i> (ATCC 7002)	-

† All values are expressed as mean±SD of triplicate determinations.