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(22) 2001 06 01

(71) 138, 304 - 101

2 259 - 12

(72) 138, 304 - 101

2 259 - 12

(74)
:

(54)

, 20 30 ,

가 . ,

1

(Opuntia ficus - indica), , , .

1 ,

2 pH

3 20 100

4

5

6

7

8

20 30

(Opuntia ficus - indica)

C

가

[中藥大辭典, 上海科學技術出版社 小學官

; 東京, p2731 (1985)].

가

[中藥大事典, 新

文豐 出版社, 上卷, p483 - 489 (1981)].

가

가

[: (1997)].

(betalain)

(betacyanin)

(betaxanthin)

(anthocyanin)

가

(betanin)

(isobetainin),

(phyllocactin)

(isophyllocactin)

537 538nm

[Piattelli, M. , Betacyanins of the family cactaceae. Phytochemist

ry,8, 1503 (1969)].

(phagocytosis),

(adherence capacity),

(prostagl

andin secretion) 가

가

가

가

가

(Interferon, IFN),

(lipopolysaccharide, LPS)

(TNF - , IL - 1, IL - 8, IL - 6, IL - 12),

(H₂O₂),

(NO),

(cytolytic protease)

1 :

1 :

, 20 30
(hot water)

(cold water)

. 70 100

(明記)

(screening)

1

2 :

2 :

A.O.A.C [Official Methods of Analysis, 15th ed., Association of Official Analytical Chemists, Washington, D.C., USA. p.994 (1990)]

(Soxhlet extract method),

H₂SO₄ - NaOH

105 가

(Semimicro kjeldahl)

6.25

. 가 (nitrogen free extract)

100%

3가

20 30

1

[1]

	(%)
	9.46
	3.98
	1.48
	4.43
	11.95
가	68.70

1 가 , 가 11.95%, 9.46%, 4.43%

3 :

, pH,

3 :

, pH,

A.O.A.C. [Official Methods of Analysis, 16th ed., Association of Official Analytical Chemists, Washington, D.C., USA. ch.12 p.7, ch.14 p.70 (1995)]

1.0g 0.08M

(pH 6.0) 50Mℓ 가 pH 6.0±0.2가

(Termamyl) 0.1Mℓ 가 95 15 가 , 100 15 가

가 4.6 60 0.275N NaOH pH 7.5 ± 0.1 0.275N HCl 가 0.1M pH 4.0
 가 30 0.3M (amyloglucosidase) 가 60
 가) 0.5g (celite) (coarse glass - frit) , 95%
 가 10M 2 가 100g 60 400M
 가 20M 3 , 95% , 10M 2 , 78% 105
 (desiccator)
 525 5
 1 가 (Soluble Dietary Fiber, SDF)

1

$$SDF(\%) = [\text{침전물}(mg) - \{\text{침전물 내 단백질}(mg) + \text{침전물 내 회분}(mg)\} - \text{시료 무첨가시의 중량}(mg)] \times 100 / \text{시료}(mg)$$

(Insoluble Dietary Fiber, IDF)
 , 95% 10M 2 가
 105
 525 5 2

2

$$IDF(\%) = [\text{침전물}(mg) - \{\text{침전물 내 단백질}(mg) + \text{침전물 내 회분}(mg)\} - \text{시료 무첨가시의 중량}(mg)] \times 100 / \text{시료}(mg)$$

SDF IDF 3 (Total Dietary Fiber, TDF)

3

$$TDF(\%) = SDF + IDF$$

, pH , 535nm . 2

[3]

	++
	+
	+
	+
	+++
	+
	+++++
	++++
	+
	++
	++
	+++
	++
	+++++

2: (sugar)

가 (xylitol), , , (stevioside) 가
 가 가 4 5
 가 가 1(+) 가 5(+++++)

[4]

	+++++
	++
	++
	++++
	+++

3: (acid)

가 , , , C, , C가 가
 가 가 5 가 5
 가 가 1(+) 가 5(+++++)

[5]

	+++
	+++
	+++++
	++
C	+++++
	+
	+
	+

6 :

6 :

4 : (macrophage)

1
 100µg/ml (thioglycollate) 1ml 48 72
 B(amphotericin B) RPMI - 1640
 RPMI - 1640 2
 96 - 180µl , 37 , 5% CO₂ RPMI - 1640 2
 , . 5 8 , ICR ,
 (Hepes), /
 가 1 × 10⁶ /ml RPMI - 1640
 가 (monolayer) RPMI - 1640
 10% FBS(fetal bovine serum) RPMI - 1640 180µl
 20µl 가 37 , 5% CO₂ 24
 0.1% X - 100 25µl 가
 (lysosome) (acid phosphatase) 10mM - 150µl
 0.1M 50µl 가 1 , 0.2M 가
 , ELISA READER(Bio - Rad 3550 - UV) 405nm

[Suzuki , Effect of orally administered - glucan on macrophage function in mice. Int. Soc. Immunopharmac. 12, 675 (1990)]. 4

100µg/ml , ,
 160%, 199%, 111% 201% .
 가 , ,
 200%
 가 .

5 : (anti - complement activity)

(Mayer) (complement consumption)
 (complement fixation test) 2%
 , 3mM Ca⁺⁺ , 10mM Mg⁺⁺ GVB⁺⁺ (gelatin veronal buffered saline, pH 7.4) 3
 50μℓ 37 30 1 GVB⁺⁺ 750μℓ 가 GVB⁺⁺
 350μℓ 가 10 160 . (EA c
 ell) 250μℓ 가 37 60 2 PBS(phosphated buffered saline, pH 7.4) 2.5Mℓ 가
 . 2500rpm 10 412nm
 NHS, , (deionized water) (50%
 total complement hemolysis, TCH₅₀ %) (inhibition of 50% total complement hemolysis, ITCH
 50 %) [Kabat , Complement and complement fixation. In Experimental Immunology. Charles
 C Thomas Publisher. Illinois (1964)]. 5 .

100% 가 1000μg/Mℓ
 70%, 50%, 63% 가 .
 7 : 7 :

1 6

6 . ,

6 .

[6]

	33.33
	33.33
	2.22
C	3.6
() (Ca 35%)	3.6
DL -	1.8
	0.92
L -	0.6
	0.6
	100.0

7 . ,

7 . 8 .

[7]

() (Ca 35%)	33.33
	15.33
()	15.0
	12.3
	9.6
	9.0
C	1.53
	1.53
	0.985
()	0.9
	0.24
	0.24
	0.015
	100.0

(57)

1.

, (macrophage) (complement system) 가
(Opuntia ficus - indica)

2.

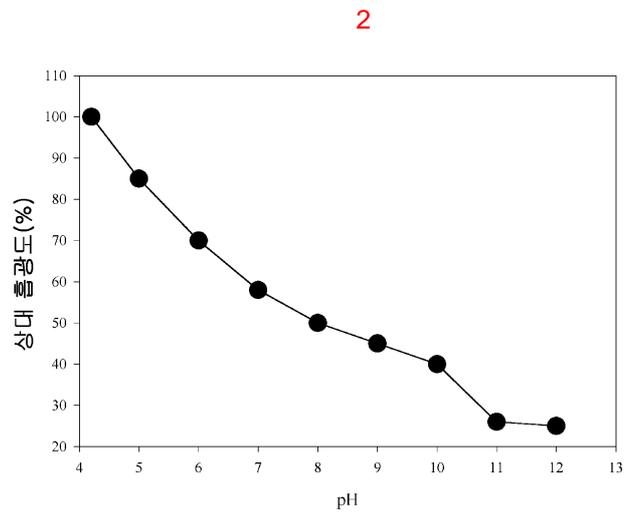
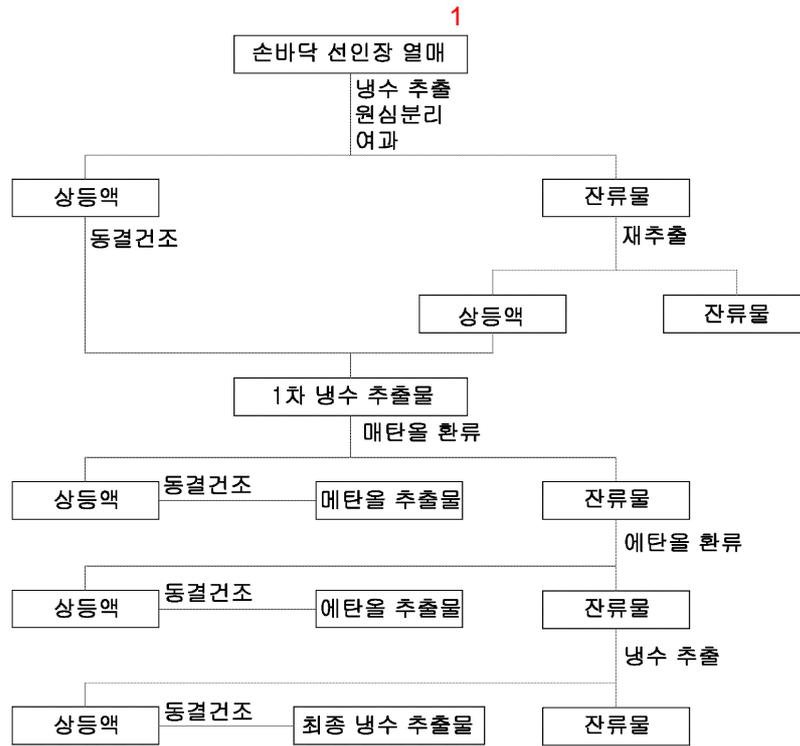
1 , 20 30 (cold water)

3.

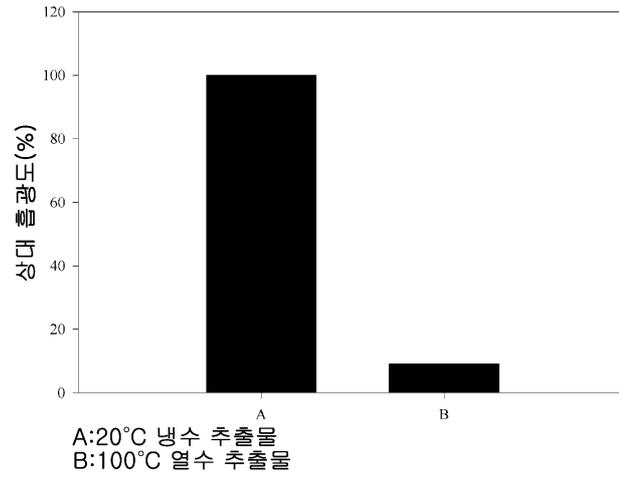
1 ,

4.

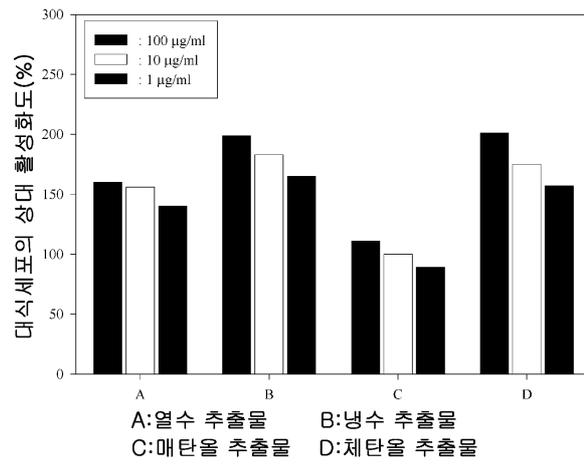
1



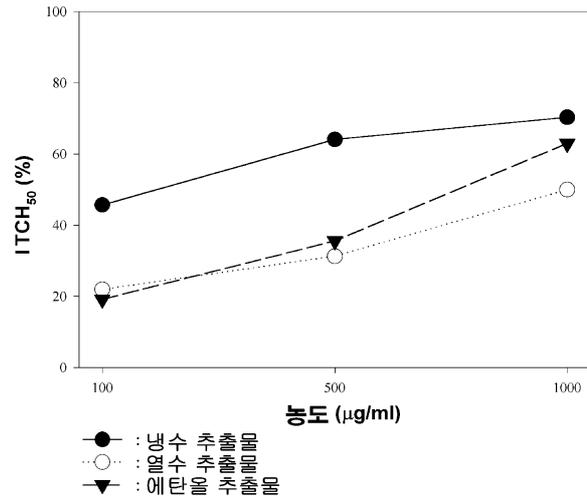
3



4



5



6



7



8

