

(19) (KR)  
(12) (B1)

(51) 。 Int. Cl. 6  
A61K 35/78

(45)  
(11)  
(24)

2001 12 22  
10 - 0317112  
2001 11 28

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(21) 10 - 1999 - 0009079  
(22) 1999 03 18

(65) 2000 - 0060612  
(43) 2000 10 16

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(73) ( )

432 - 10

(72) 9 132 - 1

2가 185 - 15 1203  
105 401 504  
1333 1 710  
13 1403

226 - 5

(74)  
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(54)

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(Liliaceae)  
Ilodendrone Bark;黃栢)

(Anemarrhena Rhizoma; 知母)

(Phe

· , , , ,  
, , , , ,  
, , , , ,  
, , , , ,  
가 가 . ,

3

,

1

2

3

tail - flick

4

( 4a:

X400, 4b: X200).

5

UV

6

UV

7

UV

8

HPLC

9

HPLC

10

HPLC

(Liliaceae)  
Ilodendrone Bark; 黃柏)

(Anemarrhena Rhizoma; 知母)

(Phe

ain) . (fast pain) (slow p

가 (bradykinin), (potassium ions), (acids) 가 (proteolytic enzyme)

(endorphin), (enkephalin), (dynorphin) (serotonin)

ics) (codeine) (dihydrocodeine) (narcotic analgesics)  
 (NSAIDS: non - steroidal anti - inflammatory drugs) (aspirin), (ibuprofen),  
 (indomethacin)

가 (depression)

(arachidonic acid) (prostaglandin)

가 (Mast) (basophils) (histamine)  
 - 2 - (alpha - 2 - globulin) (kinins)

가 가 가( : exudate)  
 가 가 (serotonin),  
 (prostaglandins), (complement system) , T -  
 (lymphokines)

( )가  
 가 (phagocytosis)

on) (giant cells)가 (fusion) (amitotic divisi

s) (depletion) (node) (pyrogen)  
(lymphadenitis)

가 (arachidonic acid) (prostaglandins)  
(corticosteroids)  
(b - adrenergic receptors) (IL)  
가 가 , 가 가 ,  
(cromolyn sodium) (mast)

ogen) 50 50 % (and  
stromal) (transition zone) . 40 (nodules) (支質:  
zone) (peripheral zone) (濕布) (fibromuscular tissue) (central

(irritative) (obstructive)  
icturition), (postmicturitional dribbling), 가 (weak stream), (straining), (prolonged m  
ntinence) , ( : urgency), (frequency), (nocturia), (paradox inco  
(urge incontinence), (suprapubic pain) 가 .

antagonist) (tone) (androgen) (alpha - adrenergic)  
가  
가  
가  
가  
E. coli (4 single - strength tablets),  
(norflxacin, ciprofloxacin, ofloxacin)  
( ) E. coli, Klebsiella, Proteus, Pseudomonas  
(antibiotic - resistant strains) (imipenem),  
(ceftraxone) 가  
가  
가  
가  
serum sickness), (exfoliative dermiatitis), (anaphylaxis)  
Cephalosporium acremonium  
(thrombophlebitis)  
(seizures) CNS  
Streptomyces  
Micromonospora purpurea ).  
(safety margin)가 (ototox  
icity) , (tinnitus), (deafness), (vertigo)

가 가

가

가

가

5 1:2 1:0.2 1:5 , 1:1 , 1:0.

가

1 1 kg 10 50 mg

:5 , 1:0.5 1:2 , 1:1 1:0.2 1

가 가

1:10 - 45

1:25 - 35

가

(Anemarrhena asphodelorides BUNGE) (KP, JP)  
 (Asphonin) 6% (Sarsasaponin), (Markog  
 enin; 2 - hydroxy sarsasapogenin) (Flavonoids),  
 (骨蒸勞熱) (骨蒸勞熱)  
 (骨中) (Osteoporosis)

(Phellodendron amurense RUPRECHT)가  
 가 가 (var. latifoliolatum NAKAI), (var. Japonicum OHWI),  
 가 (P. insulare NAKAI), 가 (P. molle NAKAI), (P. sachalinense Sarg.)  
 1.5 - 4.5%  
 (berberine) (palmatine),  
 (magnoflorine), (guanidine), (jateorrhizine), (phellodendrine),  
 (candicine), (menisperine), (obakunone) (obakulacton)  
 e), ?? - (?? - Sitosterol)  
 가

가

가

1  
(121 , 15pound/in a2) 가 1 10 - 45  
25 - 35

2  
(121 , 15 lb/in<sup>2</sup>)

3

가

가

가

가

가

(alpha - adrenergic receptor)

가

가

가

가

(suspension agent)

1,3 -

1,3 -

가

(fixed oils)가

가

가

가

10 - 40 mg

100 mg

1 kg 1

60 kg

5 - 50 mg,

20 -

< 1

	(Phellodendron amurense RUPRECHT)	(Anemarrhena Rhizoma)	
40 ~ 60	100 g ,	3000 ml 가	121 , 15 lb/in <sup>2</sup>
	, 1500 ml가	.	121 , 15 lb/in <sup>2</sup> 15
	, 400 ml 가	.	.
2	, n- 200 ml 가	, , , n- 가	.
	. 60 80 가	, 500 g 가	.
	. 가	.	.
	15 % ( )	15000 mg	.

< 2

1.

1	250 mg	260 mg
( ) 35 mg,	15 mg,	L - HPC(Low - hy
droxyprophylcell ulose) 80 mg	.	, 1
10 mg 가 3	20	.
225 mg	.	.

2.

16 mg 가 , 1	가 150 Mℓ	3 %	80 mg	, 60
,			4.5 g	.

3.

1	450 mg	50 mg
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4.

1	450 mg
가 C, 가	가 ,
100 Mℓ	0.45 %

5.

1	3 %	,	,
가	.	.	.



< 3

(carrageenin paw - edema )

200 g (100 mg/kg, i.p.) , (plethysmometer) .  
 1% (carrageenin) 0.1 m  
 1 , 1  
 (% inhibition)

(% inhibition) =

$$100 - \frac{(\text{volume difference})_{\text{drug}}}{(\text{volume difference})_{\text{control}}} \times 100$$

1 1

	(mg/kg)		%
	0.9%	i.p.	3 ± 1
	100	i.p.	44 ± 11.3 ***
	100	i.p.	43.5 ± 8.5 ***
	100	i.p.	65 ± 9.2 ***, ‡

\*\*\*: p < 0.001 ( )

‡: p < 0.05 ( )

i.p.: (intraperitoneal)

1 AD , P , ADP .  
 (3%) 65 % (p < 0.001)가  
 , (p < 0.05)가

< 4

(acetic acid writhing)

20 - 25 g (100 mg/kg, i.p.) , 30 0.7 % 0.1 ml/10g 10  
 10 (writhing) (% inhibition)  
 7

(% inhibition) =

$$100 \times \frac{[(\text{writhing counts})_{\text{control}} - (\text{writhing counts})_{\text{drug}}]}{(\text{writhing counts})_{\text{control}}}$$

2 2

(acetic acid writhing)

	(mg/kg)		(Writhing counts)	%
	0.9 %	i.p.	27 ± 6	
	100	i.p.	22.5 ± 3.5	16.7
	100	i.p.	20 ± 12.5	25.9
	100	i.p.	16 ± 3 *	40.7

\*: p < 0.05

i.p.: (intraperitoneal)

2 AD, P, ADP 1 . 2 2 , , 40.7 % (p < 0.05)가 , 16.7 % 25. 9 % 가 , .

< 5

(tail - flick method)

200 g (100 mg/kg, i.p.) 30 2 - 5 cm (beam) , (latency) cutoff

10 , (% inhibition)

(% inhibition) =

$$100 \times \frac{[(\text{latency})_{\text{drug}} - (\text{latency})_{\text{control}}]}{[10 - (\text{latency})_{\text{control}}]}$$

3 3 .

tail - flick

	(mg/kg)		Latency( )	%
	0.9%	i.p.	2 ± 0.2	
	100	i.p.	2.9 ± 0.9	11.3
	100	i.p.	2.6 ± 1.0	7.5
	100	i.p.	8 ± 3.8 *	75

\*; p < 0.05

i.p.; (intraperitoneal)

3 AD, A, ADP 1 . 3 3 , , 75 % (p < 0.05)가 , 11.3 % 7.5 % 가 가

< 6

115 ( 40 , 75 )  
 2  
 10 ml 1 3 ,  
 10 1 2 ,  
 1 1 3 ml .  
 14 (aggrevation), (no change), (slightly ef  
 fective), (moderately effective), (significantly effective)  
 30 70  
 4

	(Response) xx x				Total
	xx	x	x	x	
(Chronic gastritis)	3(37.5)	1(12.5)	3(37.5)	1(12.5)	8
(Arthralgia)	5(35.7)	2(14.3)	7(50)		14
(Benign Prostate Hyperplasia)		1(11)	2(22)	6(67)	9
(Chronic cystitis)	1(5)	1(5)	7(35)	11(55)	20
(Cervical disc.)	4(23.5)	8(47)	5(29.4)		17
(Degenerative joint arthritis)	3(33.3)	5(55.6)	1(11.1)		9
(Rheumatoid arthritis)	1(25)	1(25)	2(50)		4
(Tennis elbow)		1(16.7)	3(50)	2(33.3)	6
(Osteoporotic pain)			6(75)	2(25)	8
(Migraine)		2(28.6)	5(71.4)		7
(Diabetic neuropathy pain)			7(100)		7
(Rt flank pain)		1(16.7)	5(83.3)		6

( : (%))

xx : (aggrevation)

x : (no change)

: (slightly effective)

: (moderately effective)

: (significantly effective)

4 , 62.5 % 64.3 % ,  
 100 %, 99 %, 76.4 %, 66.  
 7 %, 75 %, 66.7 %, 100 % ,  
 100 %, 100 %, 100 %가  
 가 , , , 100 %

< 7

가

가 LD<sub>50</sub> ( 50 % )

ICR (male, 22 ± 1 g) 36 1 6 A F 6 , A 1  
 kg 1 5 g , B  
 7.5 g, C 10 g, D 12.5 g E 15 g - (Behrens - Ka  
 rber) ( : 高木敬次郎 外: 藥物實驗, 南山堂, Japan, p131, 1960) (p.o.)  
 LD<sub>50</sub> 5

(LD

	(g/kg)	(p.o.)	*Z	**d
		/		
A	5	0 / 6	-	-
B	7.5	0 / 6	0	2.5
C	10	0 / 6	0	2.5
D	12.5	0 / 6	0	2.5
E	15	0 / 6	0	2.5

\* Z: 2 ½

\*\* d : 2

5 , LD<sub>50</sub> 15 g/kg , 1 kg 15 g

, LD<sub>50</sub>

10 % 10

(Fisher, Histomatic Tissue Processor, 166A)

(AO Rot

ary Microtome) 5 μm

H& E

1 kg 15 g ( 4a) ( 4b)

( ).

1 kg 15 g

< 7

UV

(Spectrophotometer; Pharmacia, Ultrospec 2000)

HPLC(HP1090) , 258, 316, 365 nm 가 5 (0.5 mg/ml) UV  
 , 278, 325 nm 가 가 6 (0.25 mg/ml) UV  
 (0.5 mg/ml) UV 258, 317 nm 가 가 7

< 8

HPLC( )

mg/ml 10 µL HPLC HPLC(HP1090) 10

( )

: C18 ODS; 4.6 mm i.d. x 100 mm L

: 1%

: 1 ml/min

: photodioid array detector 254 nm

8 HPLC  
 1.097 , 8.705 , 10.221 가 1.097  
 2840.6 ± 115.5( ± ), 가 508.7 ± 15.5 , 8.705 10357.  
 2 ± 328.7, 가 980.7 ± 11.9 , 10.221 30397.6 ± 563.4, 가 2181.4 ±  
 17.5

9 HPLC 7.817 , 8.588 , 10.126 , 10.381 . 7.  
 817 7600.9 ± 115.5, 가 511.1 ± 15.5 8.588 493  
 9.4 ± 245.5, 가 427.9 ± 45.5 , 10.126 5115.8 ± 325.5, 가 458.2 ±  
 35.5 , 10.381 8524.8 ± 529.5, 가 702.2 ± 35.5

10 HPLC 1.055 , 7.825 , 8.600 , 10.146  
 1.055 , 7.825  
 . 1.055 1382.4 ± 115.5, 가 385.5 ± 15.  
 5 , 7.825 2362.9 ± 128.7, 가 163.4 ± 11.9

< 9

TLC( )

TLC( )

)

가

가

( )

TLC (20 x 20 cm): 60 F<sub>254</sub>

: : : = 90 : 5 : 5

Spray: BiONO<sub>3</sub> + KI + +

가 가

가

가

(57)

1.

2.

1 ,

가 , 가

3.

1 ,

4.

1        3        ,

1:0.2     1:5

5.

4        ,

1:0.5     1:2

6.

1        ,        ,        가

7.

6        ,

1        1 kg    10     50 mg

8.

6        ,

1        60 kg        20     100 mg

9.

a)        ;

b)        7.5 lb/in<sup>2</sup>     22.5 lb/in<sup>2</sup>        ;

c)        가        ,        ,        ,        ;        가

d)

10.

9        ,

a)        1:10 - 45

11.

10

a)

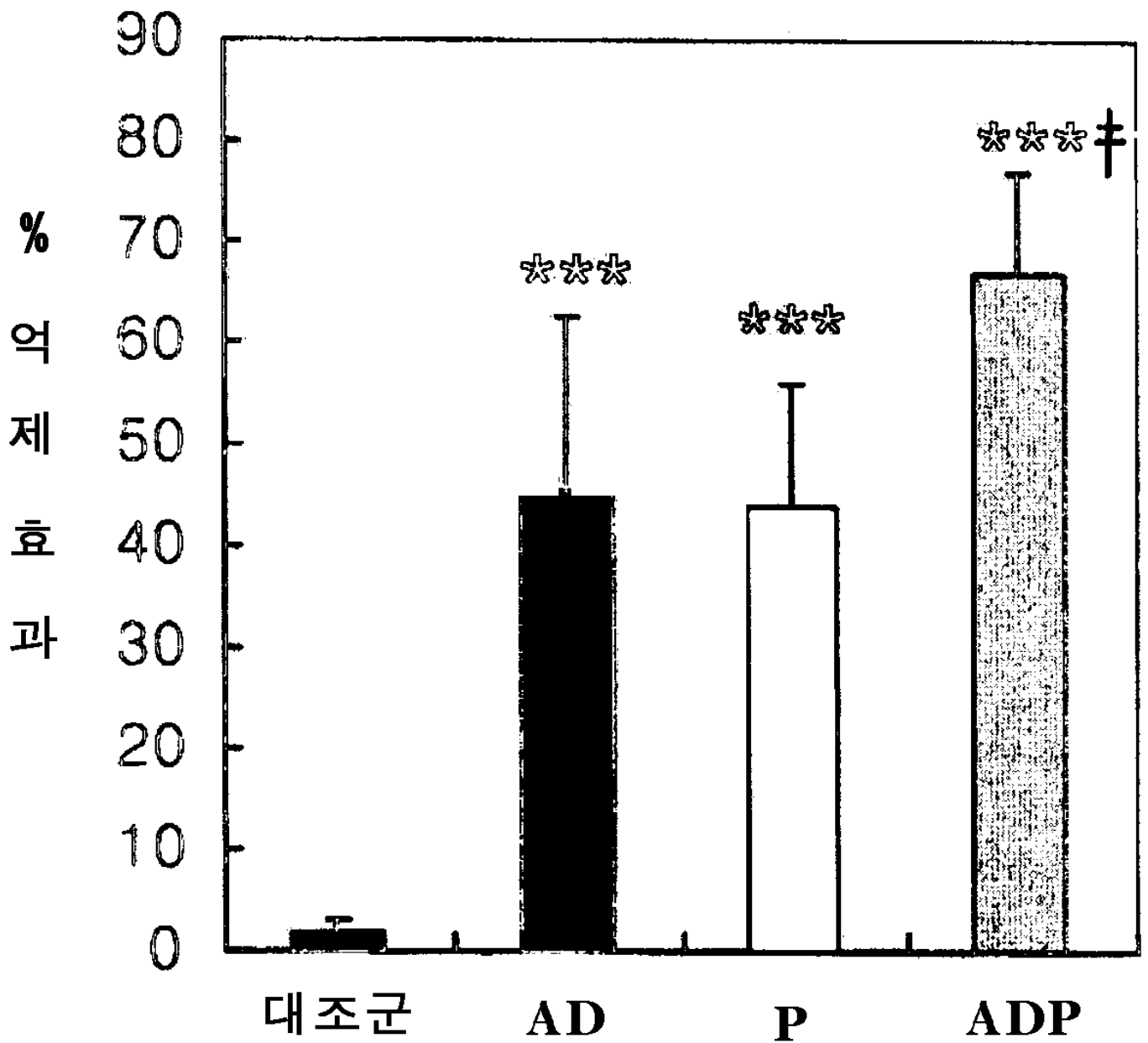
1:25 - 35

12.

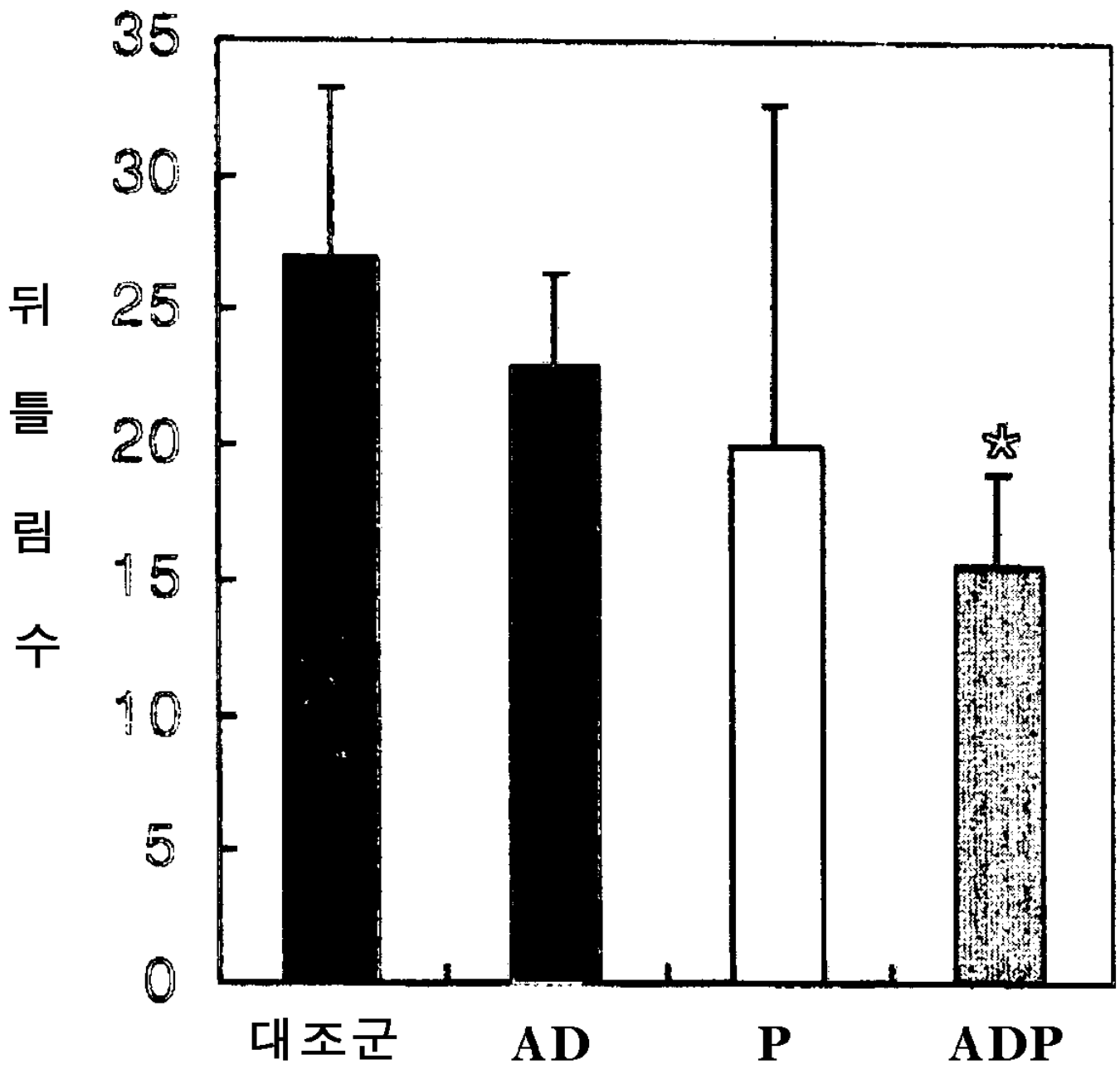
9

c)

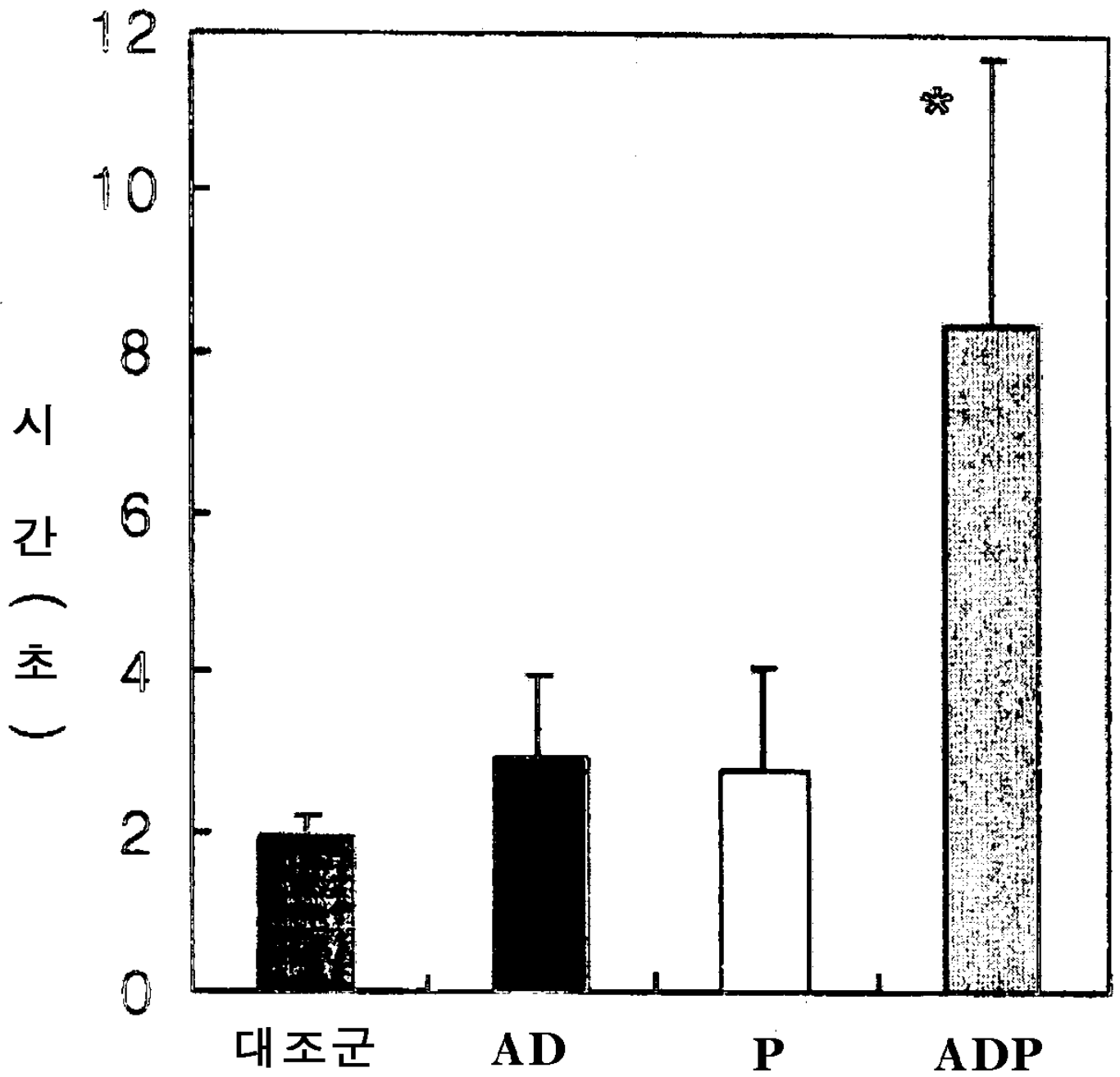
1



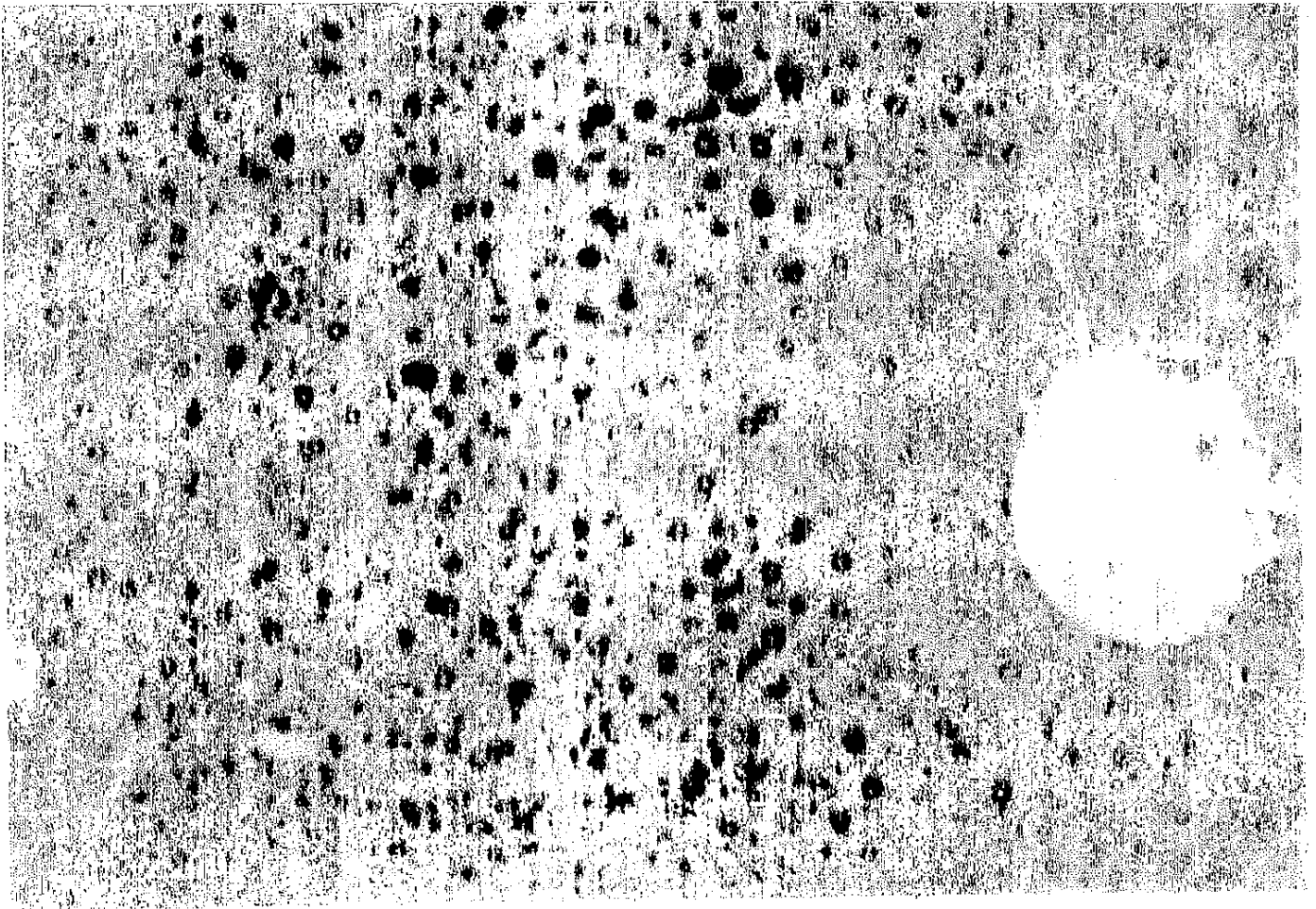




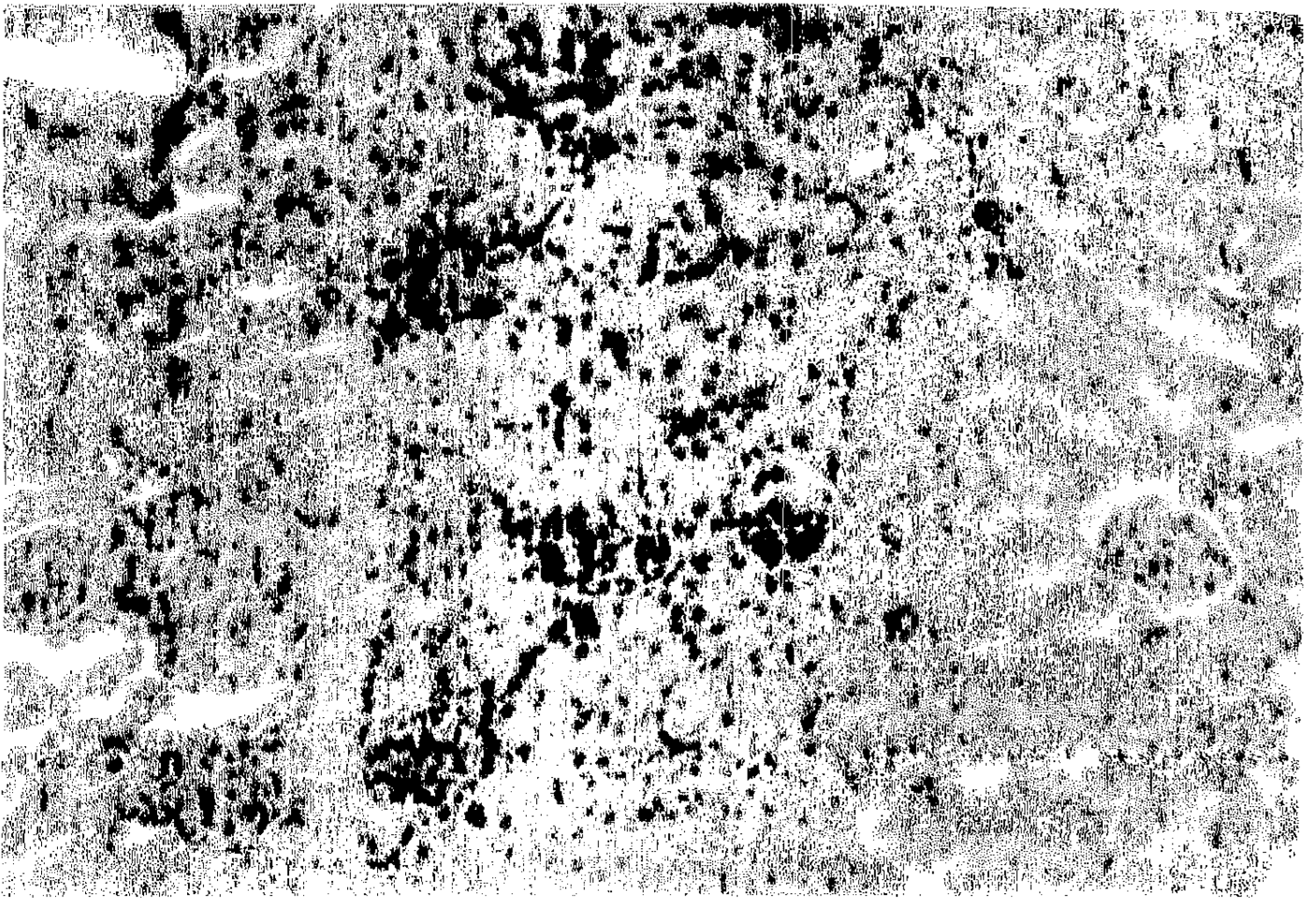
3



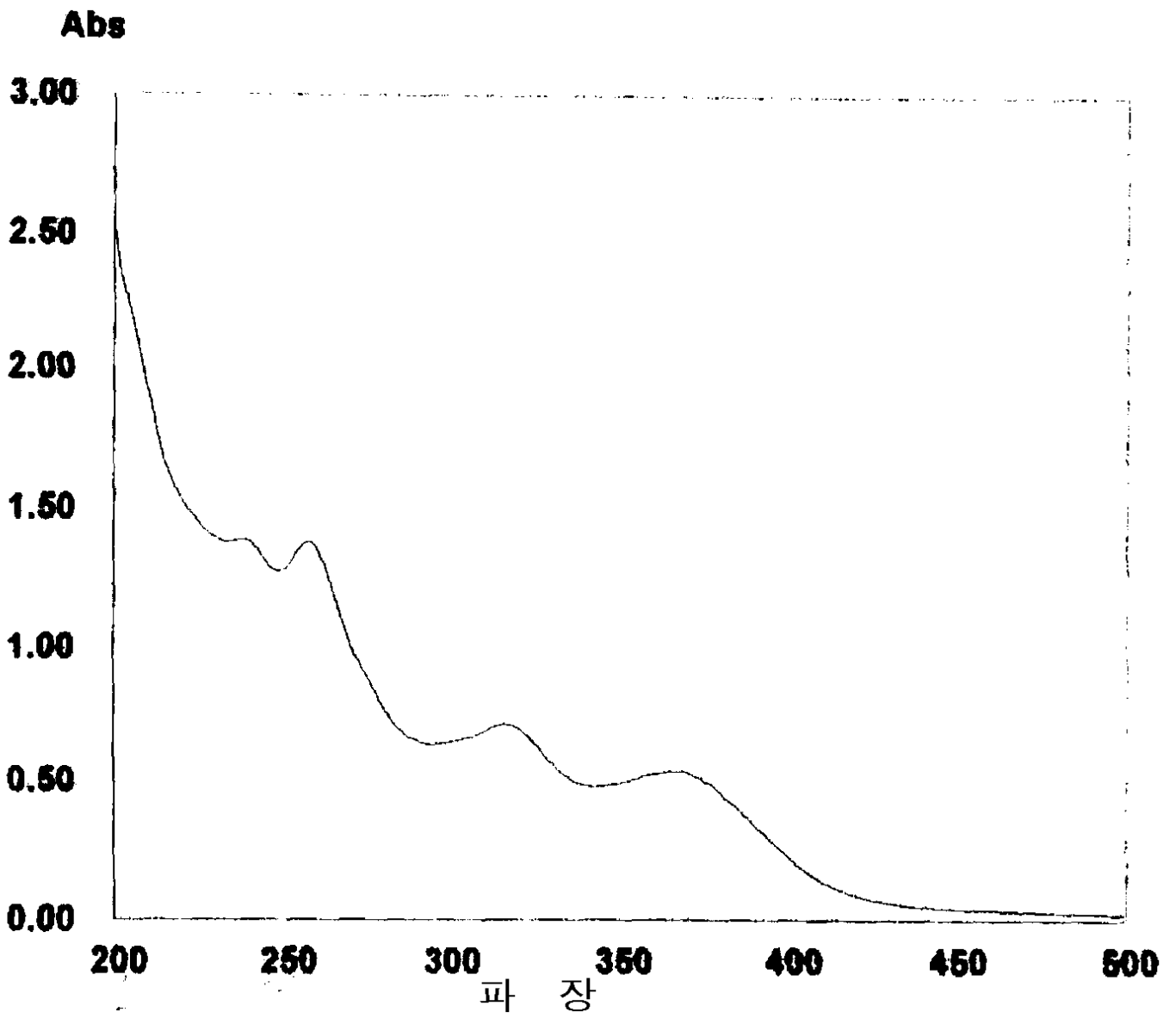
4a



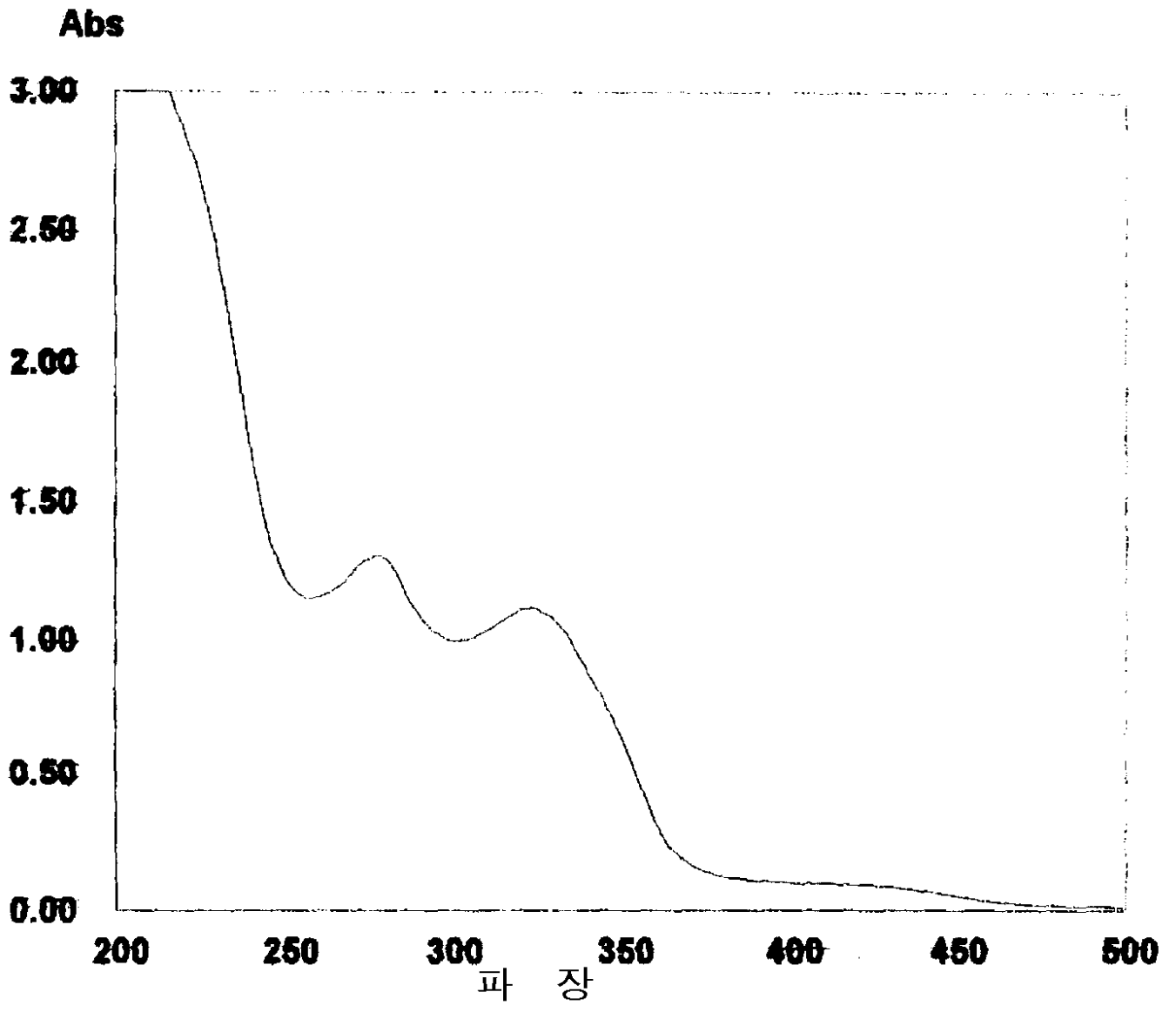
4b



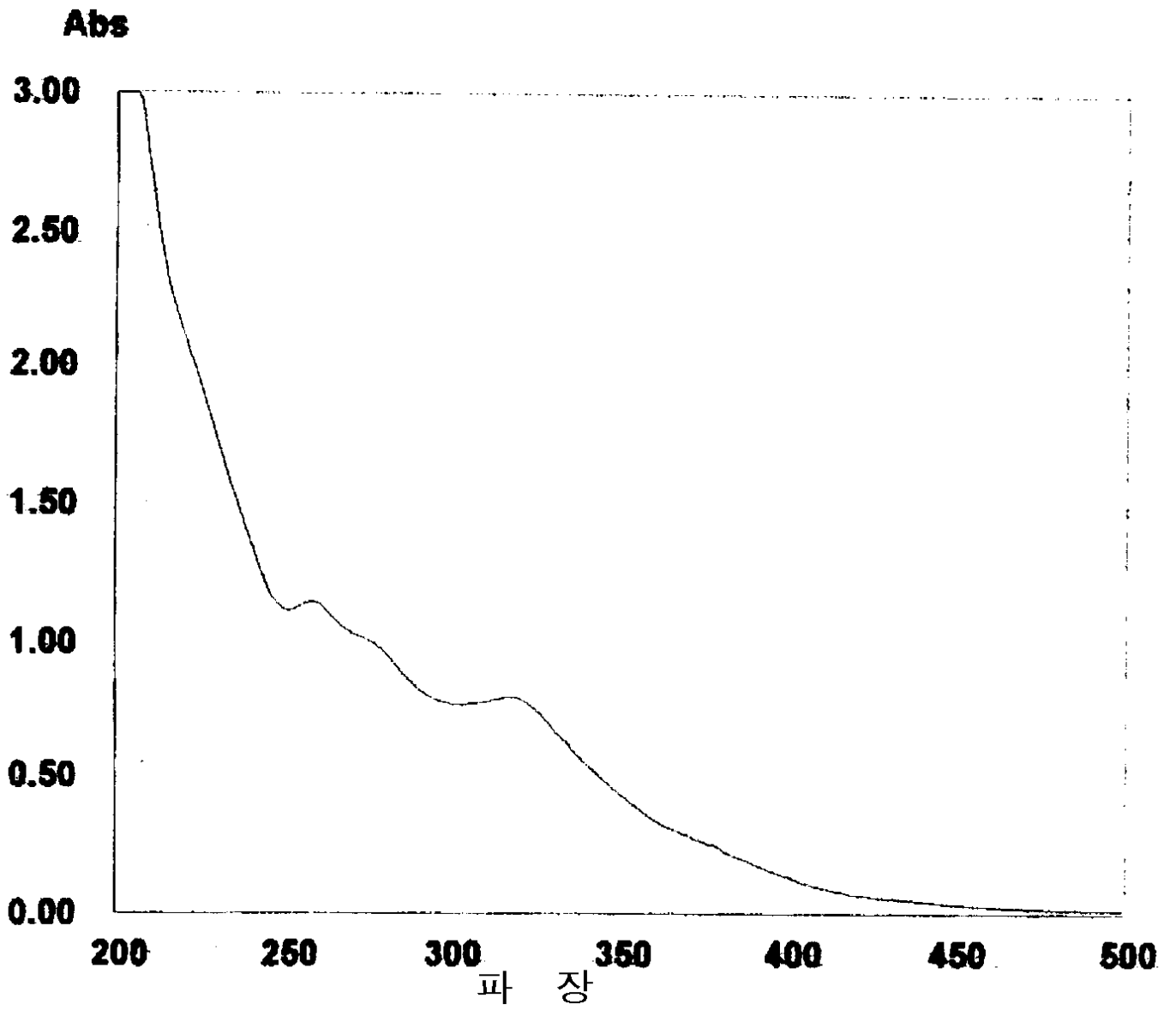
5

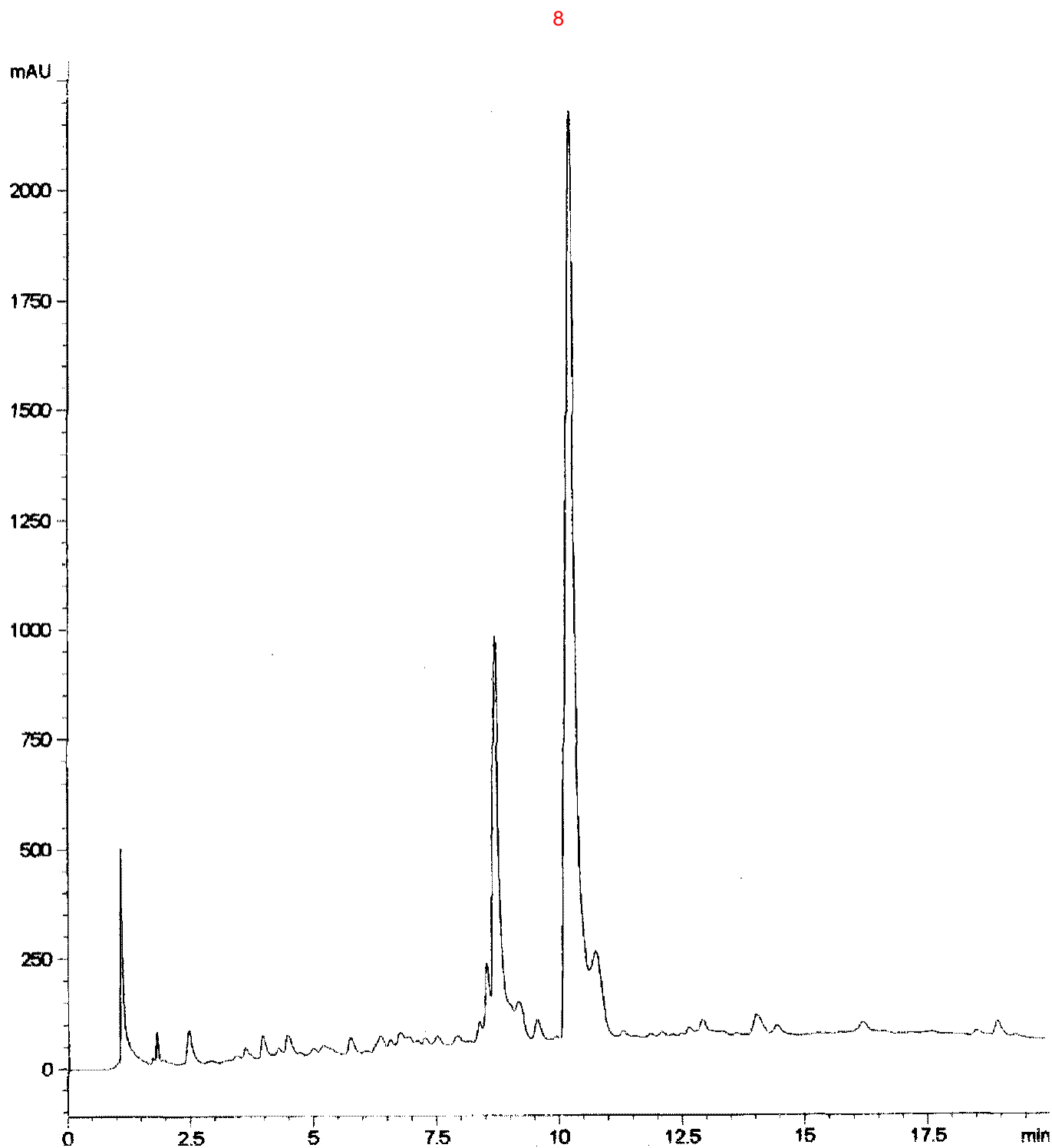


6



7







9

