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(12)

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(A)

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(43)

2003-0062137
2003 07 23

(21) 10-2002-0002573

(22) 2002 01 16

(71) ()

28-22

6

(72)

2189

28

28

28

28

307

104 1406

9-257

4 612-31

101

2 501

(74)

:

(54) c - m a f

c-maf

,

c-maf

, Th2

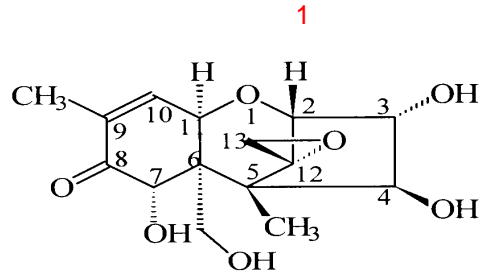
,

1

, c-maf,

- 1 ;
- 2 ;
- 3a IgE가 ;
- 3b IgG1 ;
- 3c IgG2a ;
- 4a IL-4가 ;
- 4b IL-5가 ;
- 5a-5b Th2 ;
- 6a Th2 D10G4.1 IL-5 ;
- 6b Th2 D10G4.1 IL-6 ;
- 7 IL-4 ;
- 8 c-maf ;
- 9 .

oxin) (nivalenol) , (*Fusarium spp.*) c-maf (trichothecene mycot
1 .



IgA 가 (Hinoshita, F. et al., *Nephron*, 75:469-478(1997))

, c-maf IL-4 (IL-4) IL-4
 (I-Cheng Ho et al. *Cell*, 85:973-983(1996)).

, Th2 6,086,898 (Listeria) 5,958,671 maf Th2 가 Th1 T

가

Th 2 가 Th 2
 c-maf

c-maf

c-maf (nivalenol)

(Paracelsus)

c-maf

IL-4 c-maf (leucine zipper) IL-4

Th2 (helper T cell type 2)- (cytokine)

c-maf Th2

(a) c-maf Th2 -

Th2 IL (interleukin)-4 c-maf Th2 c-maf 가 IL-4

L-10 IL-13 Th2 IL-4 IL-5 Th2 IL-4 IL-4, IL-5, I

Th2 IL-4 Th2 IL-4 Th2 IL-4

Th2 - Th2 IL-4

가 IL-4 Th2 IL-4 IgE IL-4 Th2 c-maf IgE 가

가 (asthma)

(mast cell), (eosinophil), T (neutrophil) 가
(: www.nhlbi.nih.gov/nhlbi/lung/asthma/prof/ashgdln.pdf).

, 1981 5.6%, 1990 10.1%, 1997 15% 가

Th2 Th1 CD4+ T- (allergen)

가

가 10%

가

5,871,734 VLA-4 (Very Late Antigen-4)
5,767,065 -4
6,086,898 (Listeria)

, Th2 - 가 (: Yamamura, M. et al., *J. C lin. Invest.* , 91:1005-1010(1993); Pisa, P. et al., *P.N.A.S. USA.* , 89:7708-7712(1992)),

Th1 Th2 가

Th2 가 HIV (Shearer, G. M. et al., *Prog. Chem. Immunol.* 54: 21-43(1992); Clerici, M. et al., *Immunology Today* 14:107-111(1993); Fauci, A. S. *Science* 239:617623(1988); Locksley, R. M. et al., *Immunoparasitology Today* 1:A58-A61(1992); Pearce, E. J., et al. *J. Exp. Med.* 173:159-166(1991); Grzych, J-M., et al. *J. Immunol.* 141:1322-1327(1991); Kullberg, M. C., et al. *J. Immunol.* 148:3264-3270(1992); Bancroft, A. J., et al. *J. Immunol.* 150:1395-1402(1993); Pearlman, E., et al. *Infect. Immun.* 61:1105-1112(1993); Else, K. J., et al. *J. Exp. Med.* 179:347-351(1994)),

Th1 Th2

가

(a)

; (b)

; (c)

가

1 1 1 mg/kg

가 가

가

가

가

-1: _____

6-7	BALB/c	6-8
SPF (specific pathogen free)	()	SPF
(ovalbumin) 20 μl	(alum) 2 mg	200 μl PBS
21, 22	23 1%	30
		2
		2

-2: _____

(Sigma,) (1 -20)

-3: _____

(() ,) Penh (en

hanced pause)

가

가 (pneumotachograph) (bias-flow)
 PEP (peak expiratory pressure) PIP (peak inspiratory pressure)
 RT (relaxation time) Te-RT (expiratory time - relation time)
 Penh (enhanced pause)가 (pause)가 가 , PEP

24 , Penh
 3 (Sigma) 2.5, 6.25, 12.5, 25 50 mg/dℓ 3 Penh
 3 'AW' 'AN' (: 1).

1 , PC200 Penh 200% 가 , PC200 가
 가 1 ,
 (p < 0.05).

-4: _____

50 mg/Mℓ, () , 24 (, 48)
 0.15 Mℓ , 500 Mℓ ,
 24 , 0.5 Mℓ ,

DM 2 Mℓ , 4 1000 rpm 5 , 10% FBS-IM
 (Diff Quick) , (x 1000) (cytospin) ,
 (: 2). 2 'AW' 300 ,

2 ,
 (p > 0.05).

-5: _____

IgE ELISA (Sigma.
 C-3041) 20 mg/Mℓ 96- (NUNC. 442404) 100 Mℓ/ 4
 , 0.05% Tween-20-PBS (Showa Chemicals INC.) 3-5
 0.05% Tween-20-PBS 3% BSA (Sigma, A-2153) 200 Mℓ/ 37 1-2
 0.05% Tween-20-PBS 3-5

(: 0.1%BSA in 0.05% Tween-20-PBS)
 50-100 Mℓ 37 2 4 , 0.05% Tween-20-PBS
 3-5 , IgE Ab (Pharmingen, 02122D) 2 mg
 /Mℓ 100 Mℓ/ 37 1 , 0.05% Tween-20-PBS 6
 , SaV -HRP (Pharmingen, 13047E) 1:1000 100 Mℓ/ 37
 30 , 0.05% Tween-20-PBS 6

, OPD 1T (Sigma, P-6912), (Sigma, P-4809) 14.7 Mℓ H₂O₂ (Sigma
 a, H-1009) 7.35 Mℓ () 100 Mℓ 30 , 12.5% (Mats
 umoen Chemicals LTD.) 50 Mℓ/ 490 nm (Microplate
 Leader: Molecular Devices, THERMO max). 6

IgE 가 100 U 가 ,
 (U) . IgG - IgE IgG1, IgG2a
 (: 3a-3c). 3a-3c 'AW' ,

'AN'

3a-3c , Th2 (p < 0.05), IgG2a IgE IgG1
 가 (p > 0.05).

-7: _____

, 'AW' , IL-4, IL-5 , I-5 (: 4a 4b). 4a 4b , 'AN'

4a 4b 가 , IL-4 , IL-5

2: Th2

ary) Th2 T EL4 Th2 D10G4.1 CD3 D10G4.1 Th2 1 (prim
 0, 30, 60, 120 250 ng/ml EL4 D10G4.1 (Pharmingen) 24 (Pharmingen) IL-4
 ngen) IL-4 10 μl 가 2 (Pierce) , IL-4 3% (Pharmi
 (Molecular Devices)

5a 5b , EL4 , CD3 IL-4가 , D10G4.1 IL-4가 , CD3
 IL-4가 , IL-4 , IL-4 가

6a 6b , D10G4.1 , CD3 IL-5가 , D10G4.1
 , CD3 가 IL-6가 , IL-6

3: IL-4 가

D10G4.1 (: Neumann, E. et al., *EMBO J.* , 1:841(1982)) IL-4
 가 , IL-4 Promega
 , IL-4 D10G4.1 ,

7 30 , IL-4 , D10G4.1
 가 , IL-4

4: c-maf 가

NIH3T3 () IL-4 가 3 Invitrogen Lipofectamine
) c-maf가 , NIH3T3 c-maf Lipotectamine (Invitrogen
 , IL-4 가

8 3 , IL-4 , c-maf
 가 ,

c-maf IL-4 IL-4

5 :

NIH3T3 10% FBS가 DMEM (Invitrogen) 24- 9
48 , MTT (3-[4,5-dimethylthiazol-2-yl]-2,5-diphenyl)
(Molecular Devices)
3 37
MTT 9 가 , c-maf
가 , c-maf
가

h2 - , c-maf T
, c-maf , Th2

(57)

1.
c-maf

2.
(a) c-maf ;

(b) 가 Th2 -

3.
2 , c-maf Th2 IL-4

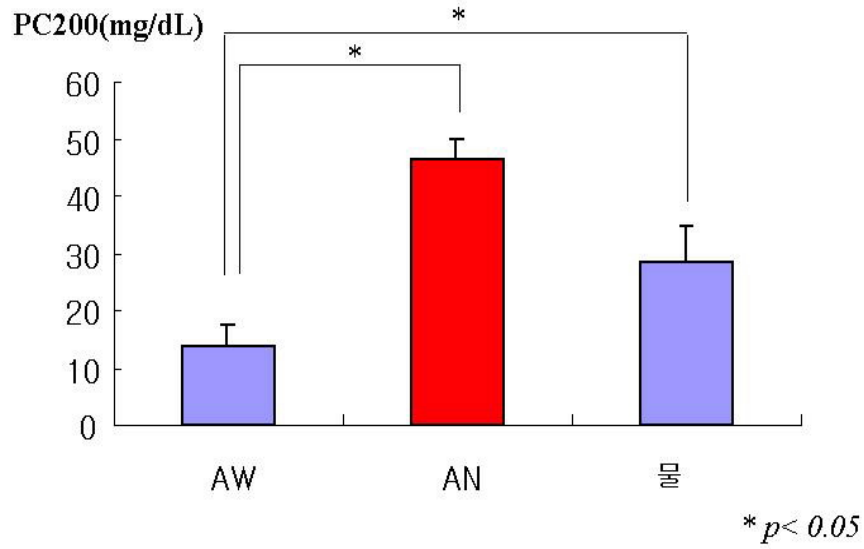
4.
2 , Th2 - ,

5.
4 ,

6.
2 , HIV , , ,

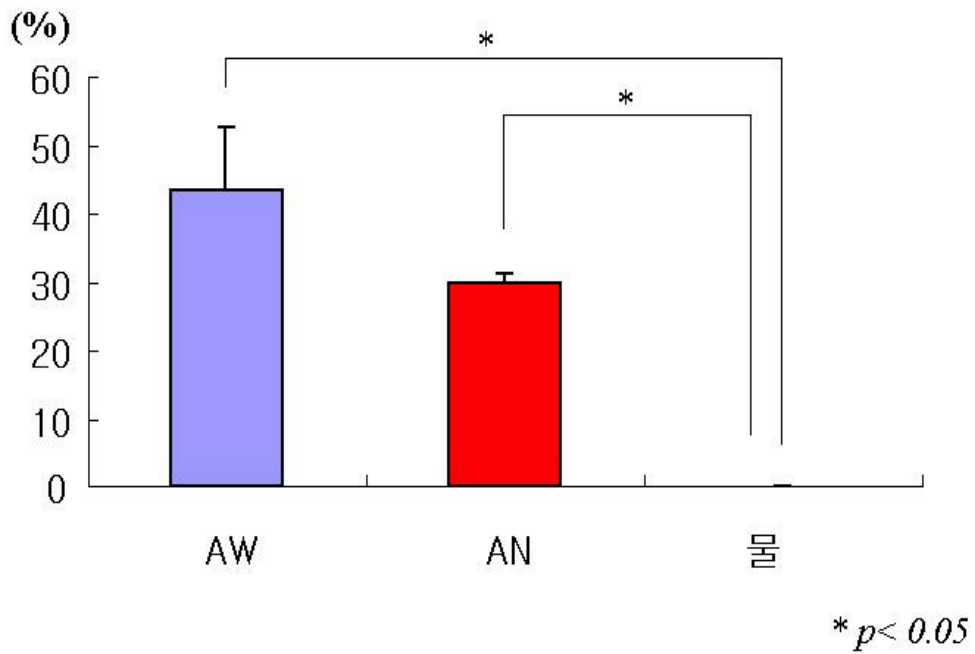
1

기도 과민성



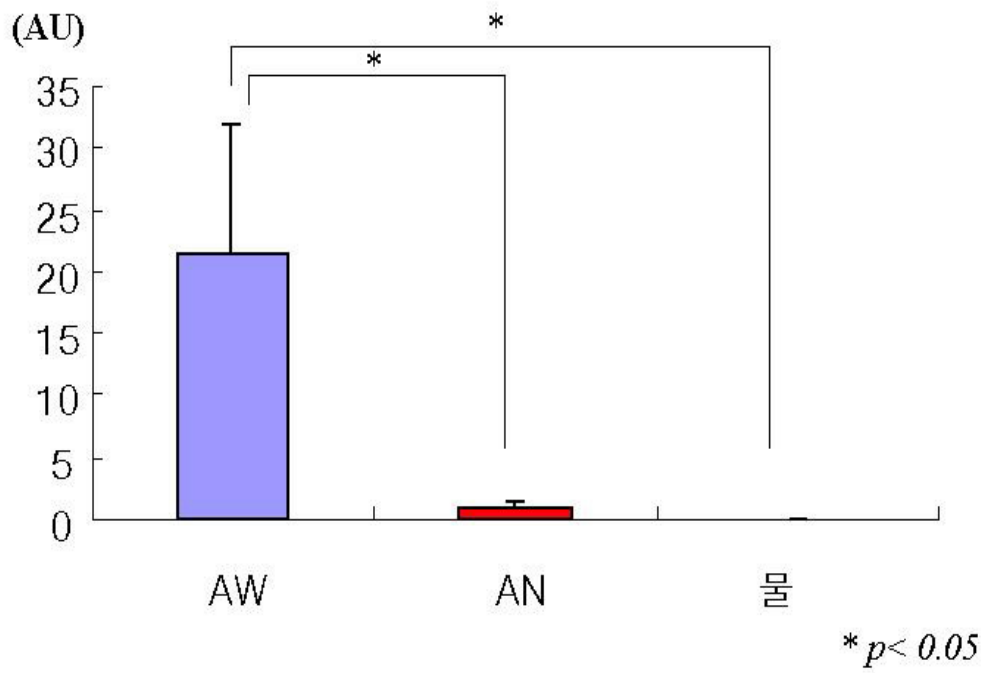
2

폐포 세척액에서의 호산구 비율



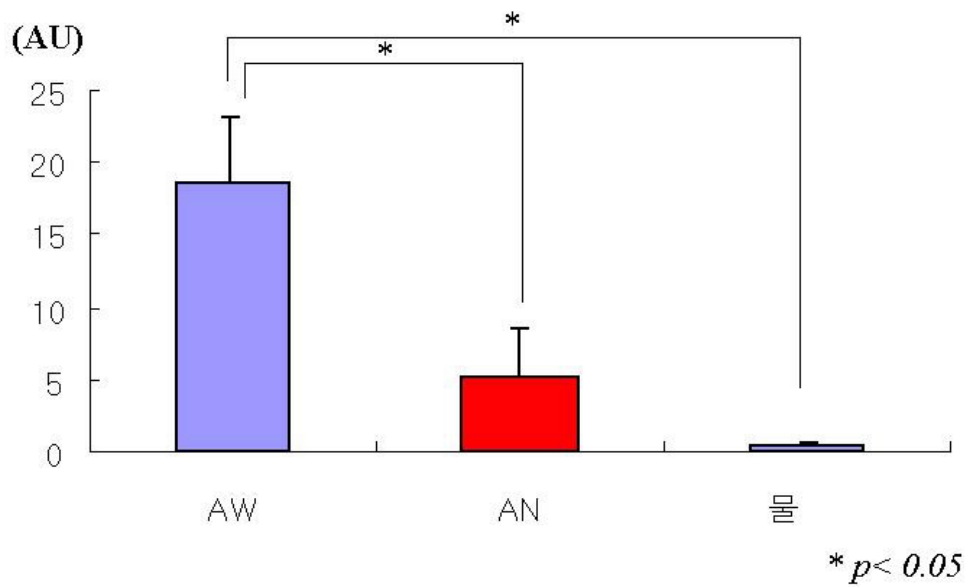
3a

혈청 항원 특이 IgE



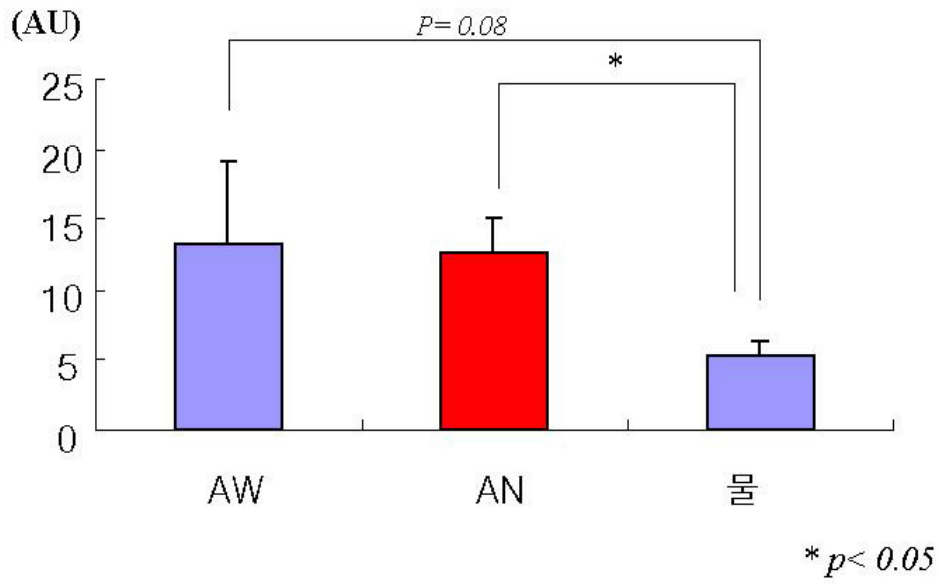
3b

혈청 항원 특이 IgG1



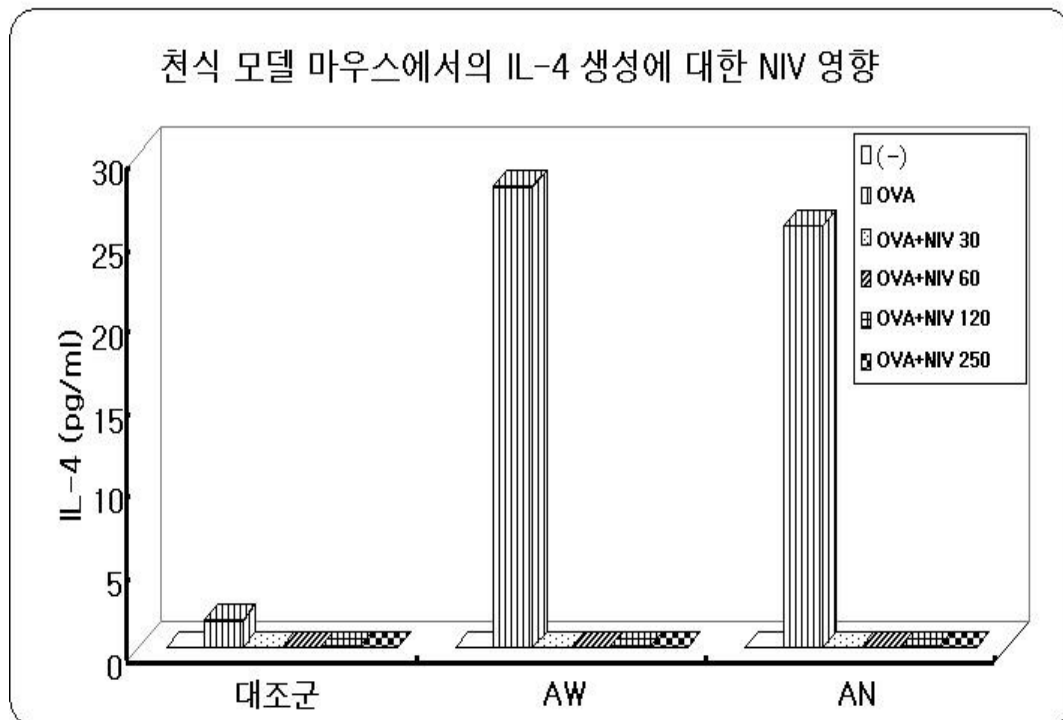
3c

혈청 항원 특이 IgG2a

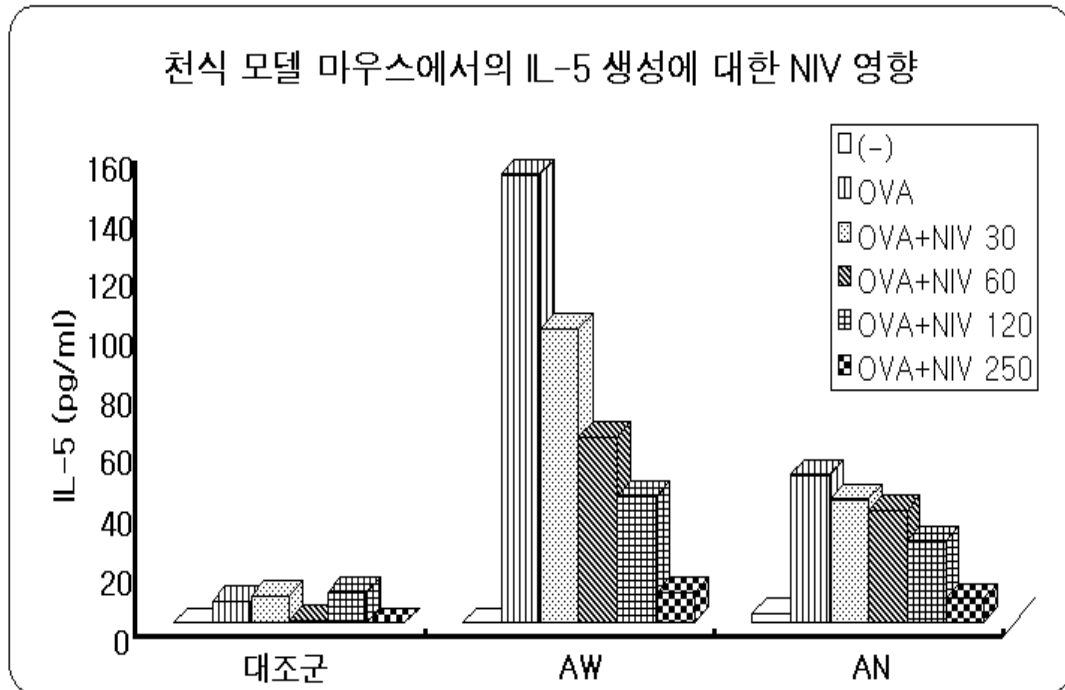


4a

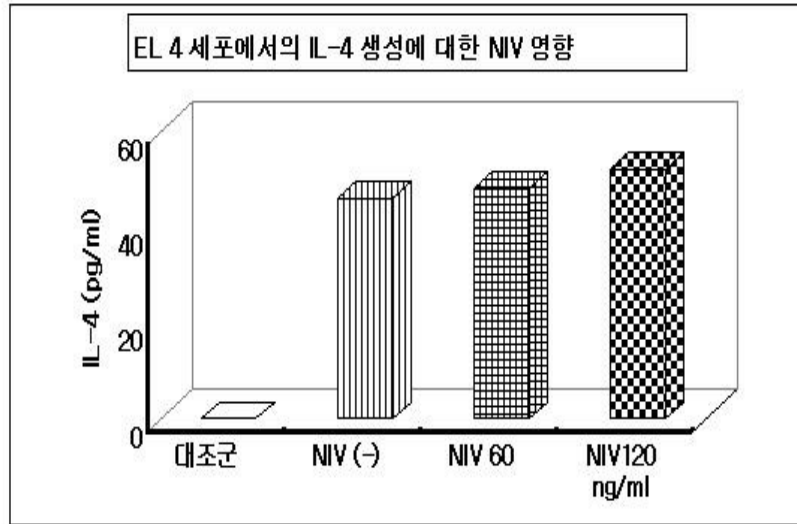
천식 모델 마우스에서의 IL-4 생성에 대한 NIV 영향



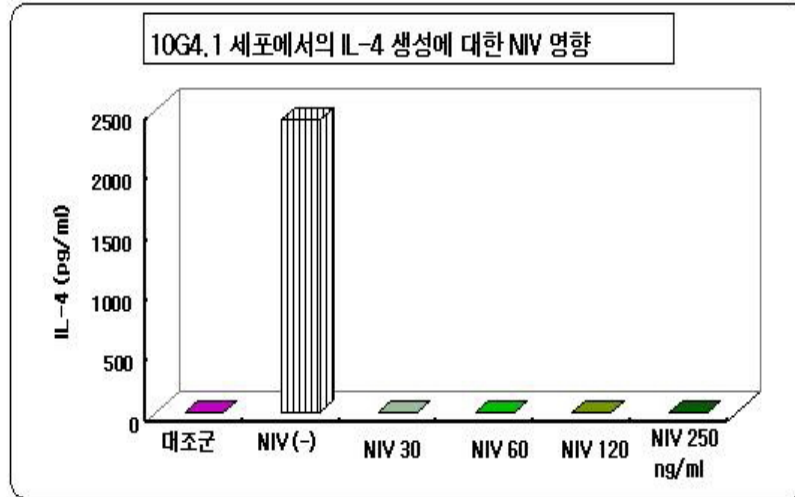
4b



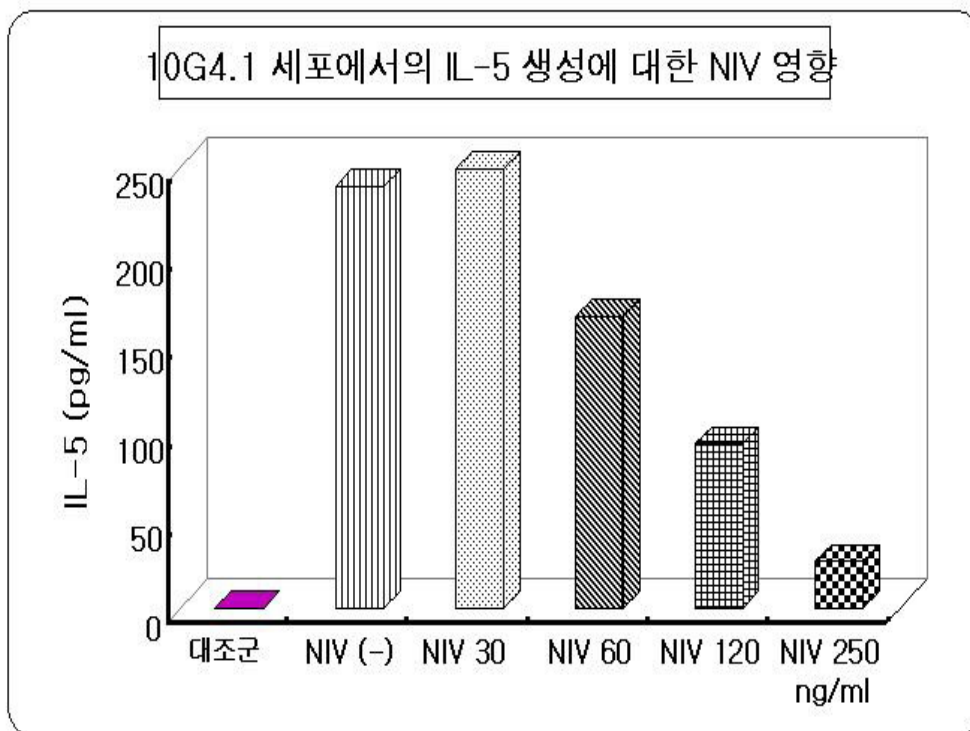
5a



5b



6a



6b

