FIGURE 1

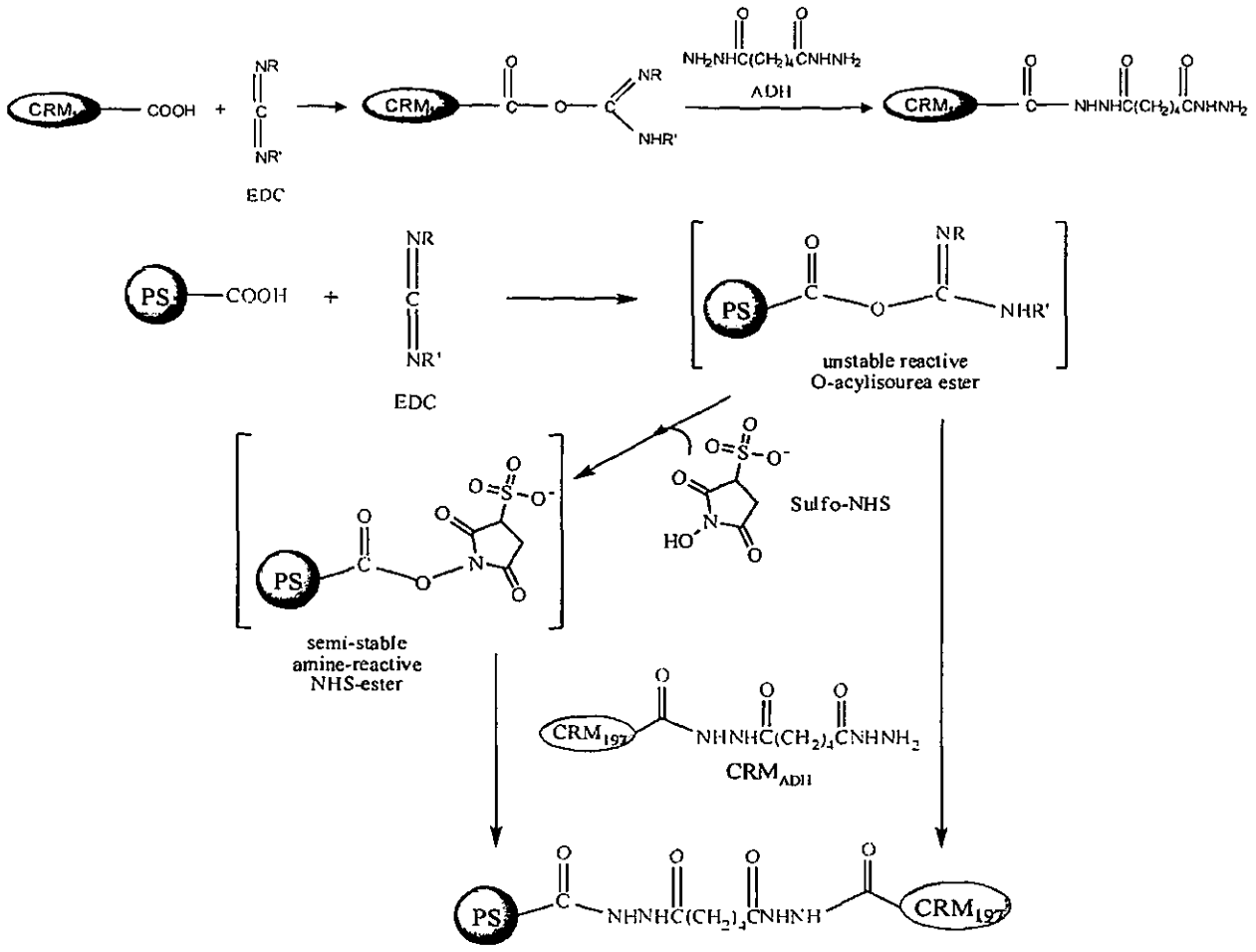

CRM197
COOH
EDC
ADH
NHR'
PS
unstable reactive
O-acylisourea ester
Sulfo-NHS
semi-stable
amine-reactive
NHS-ester
CRM197
CRMADH

FIGURE 2

A)



SDS-PAGE (gel 3-8%)
1. Marker
2. CRM_{ADH}
3. Conjugate mixture native CPS (5µg)
4. Conjugate mixture native CPS(10µg)

B)

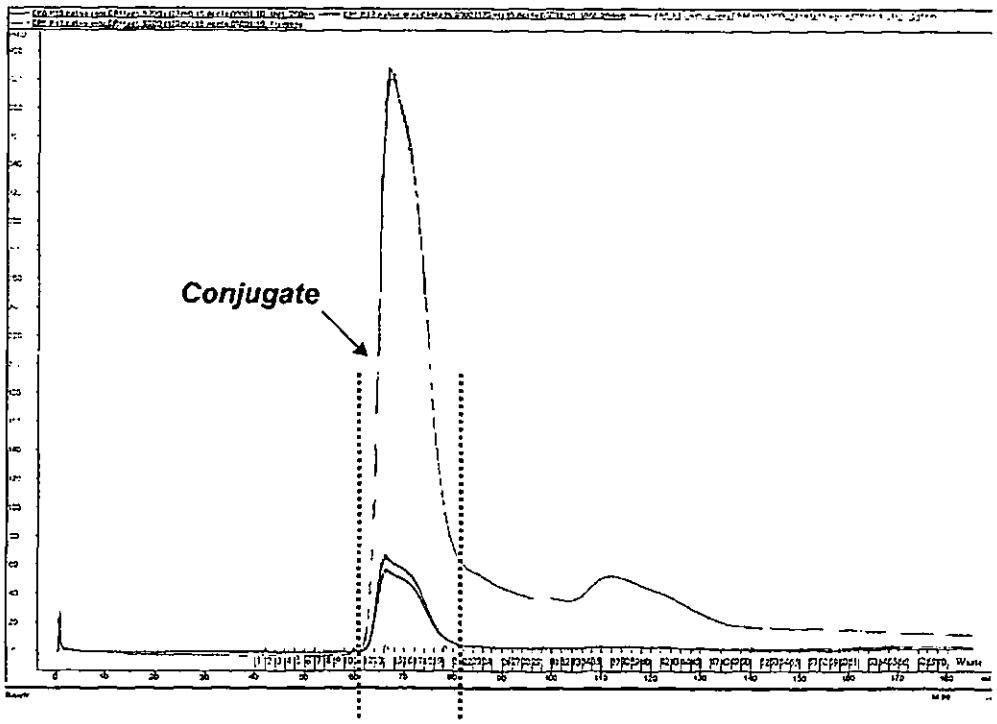


FIGURE 3

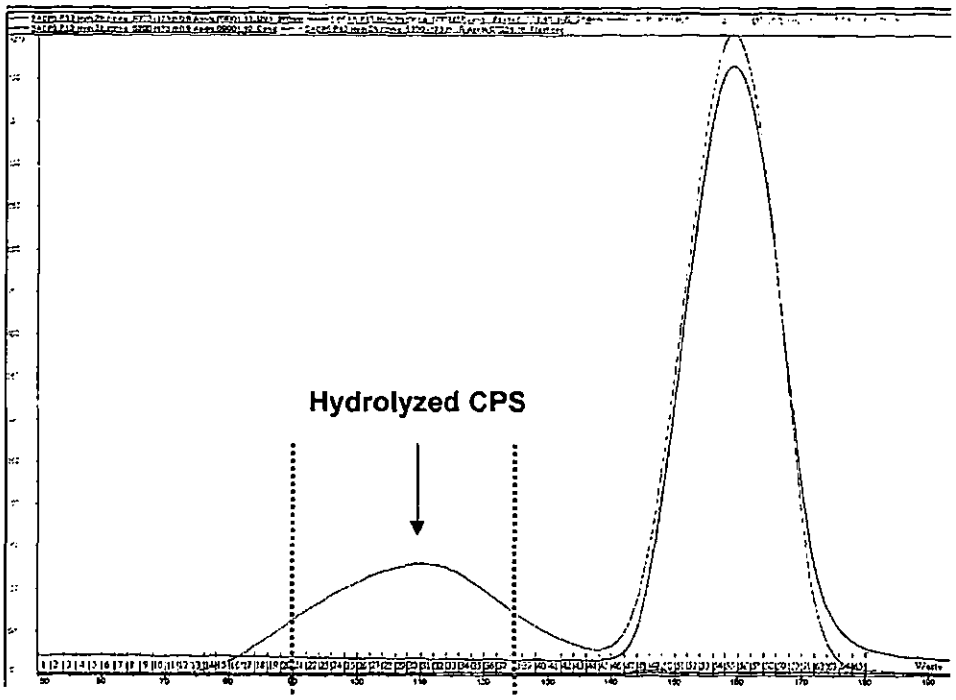


FIGURE 4A

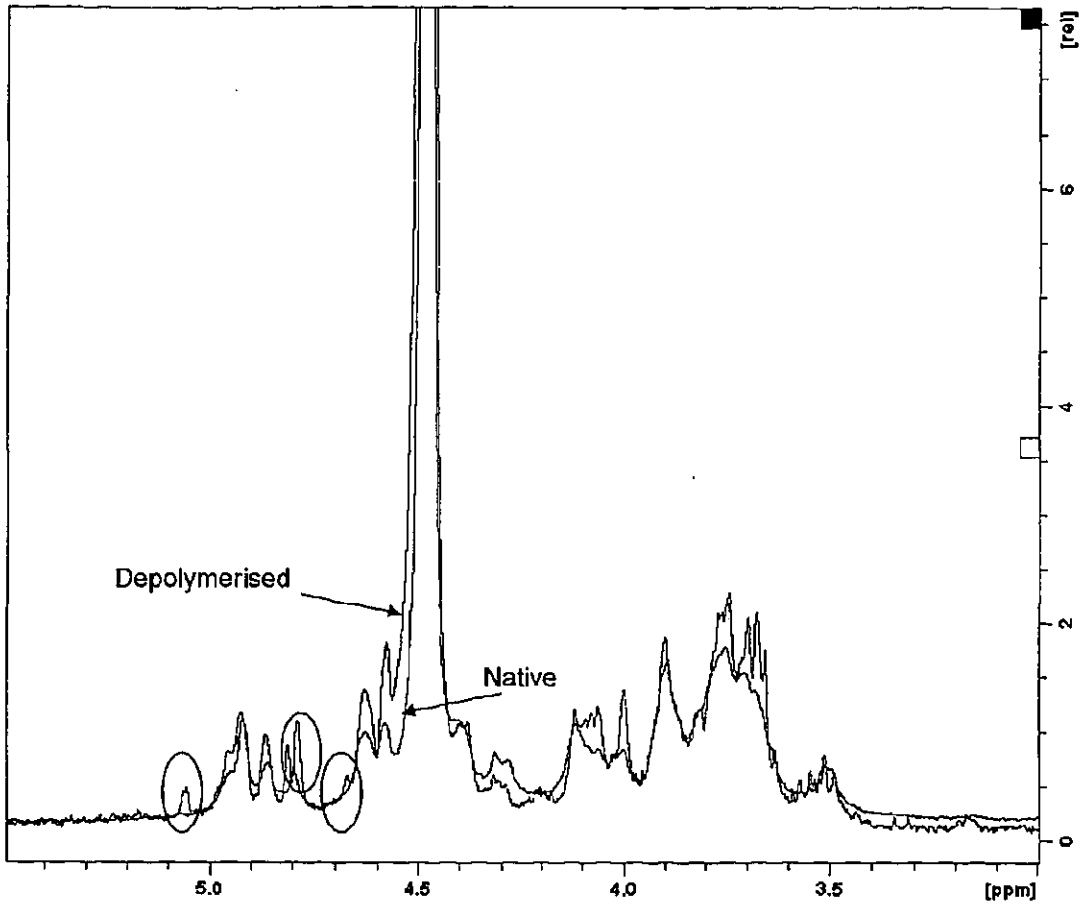


FIGURE 4B

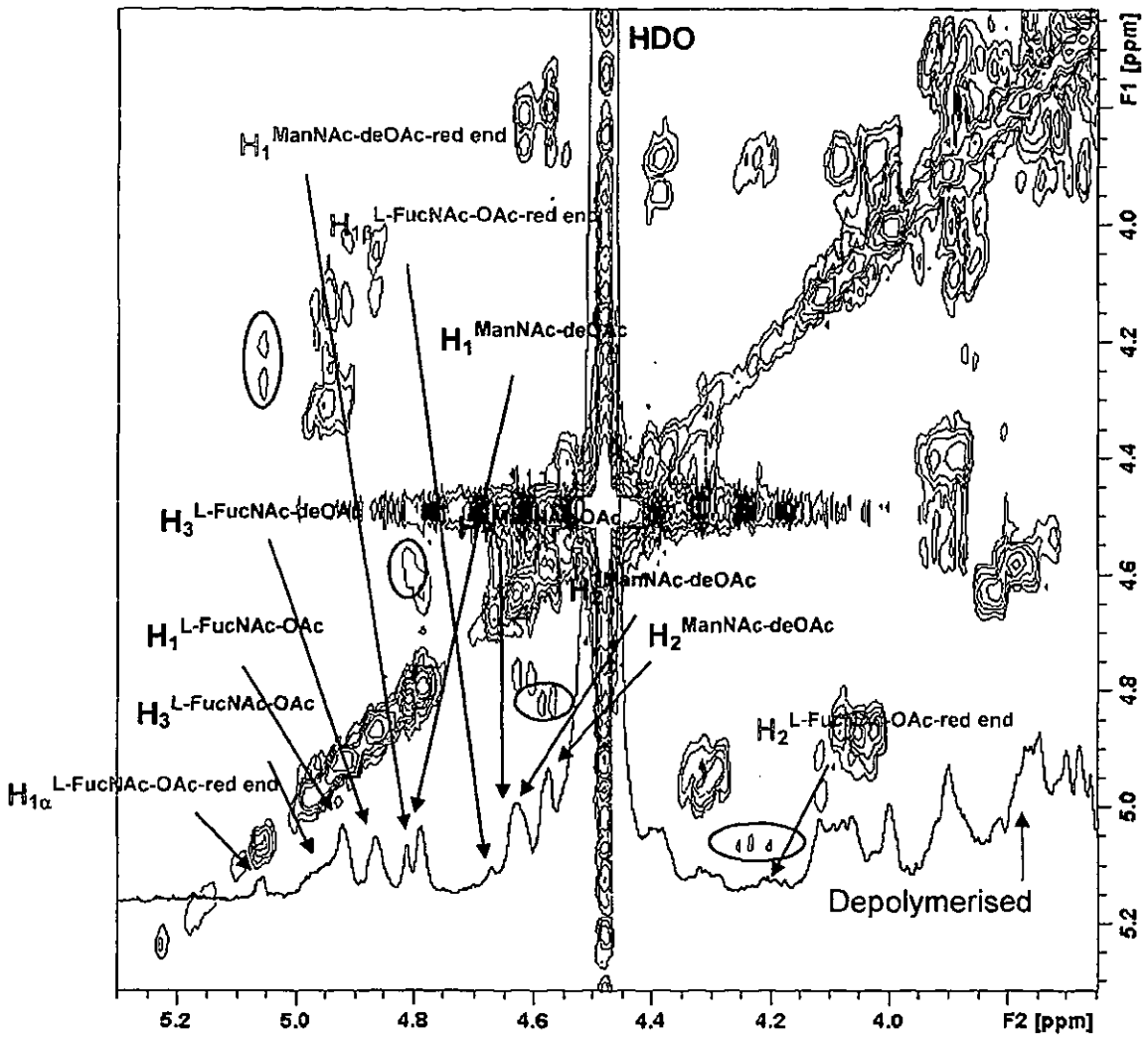

HDO
H1 ManNAc-deOAc-red end
H1 L-FucNAc-OAc-red end
H1 ManNAc-deOAc
H3 L-FucNAc-deOAc
H1 L-FucNAc-OAc
H3 L-FucNAc-OAc
H1α L-FucNAc-OAc-red end
H2 ManNAc-deOAc
H2 L-FucNAc-OAc-red end
Depolymerised
F1 [ppm]
F2 [ppm]
5.2
5.0
4.8
4.6
4.4
4.2
4.0

FIGURE 4C

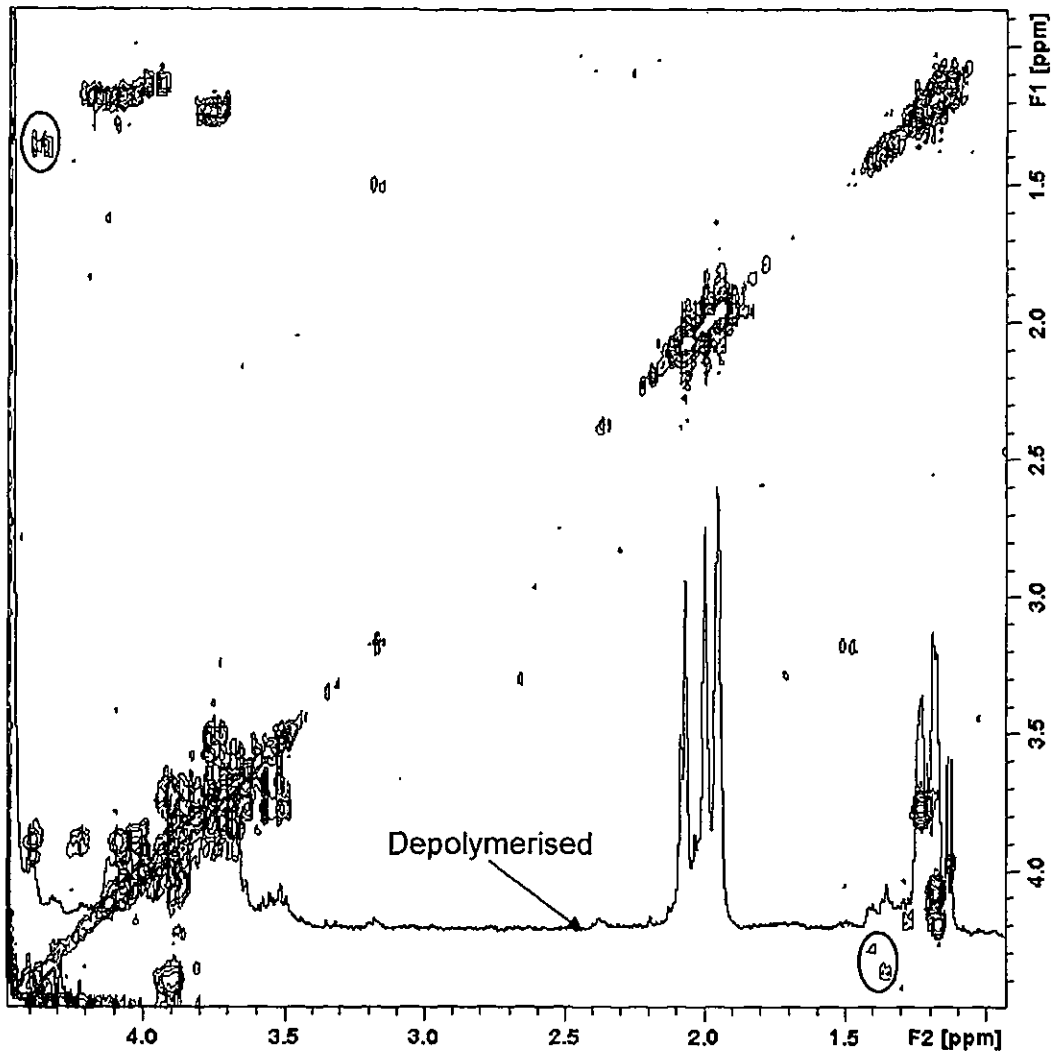
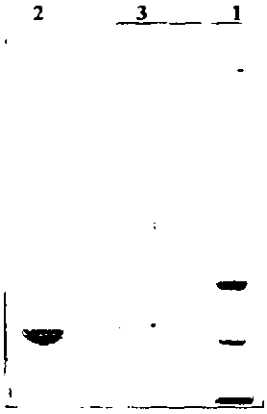


FIGURE 5

A)



SDS-PAGE (gel 3-8%)
1. Marker
2. CRM
3. CP5-CRM conjugate

B)

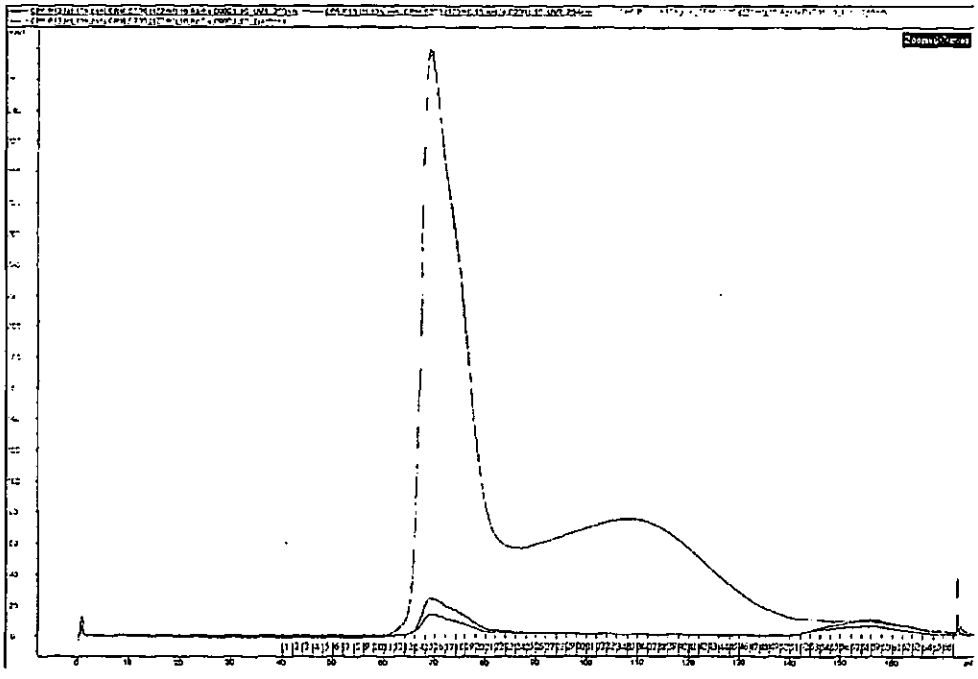


FIGURE 6

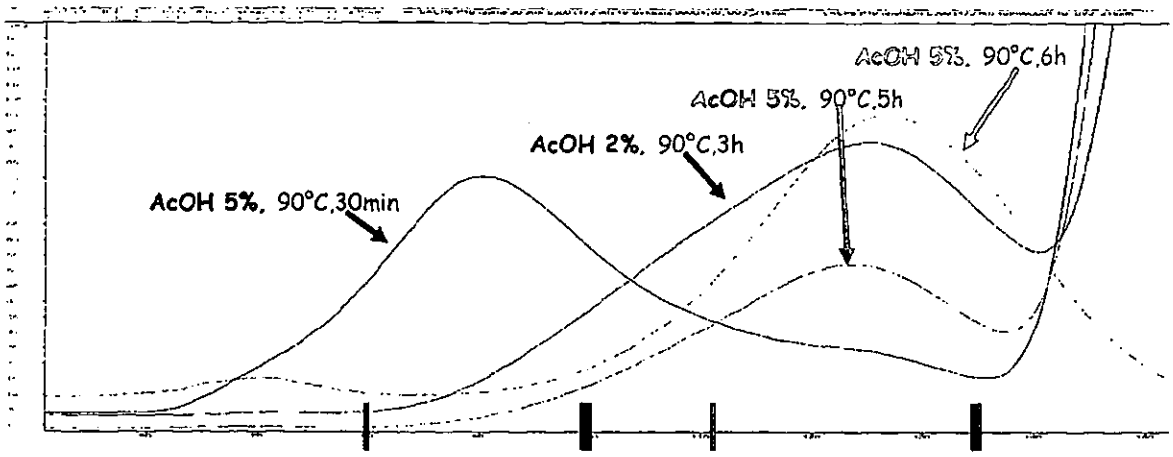
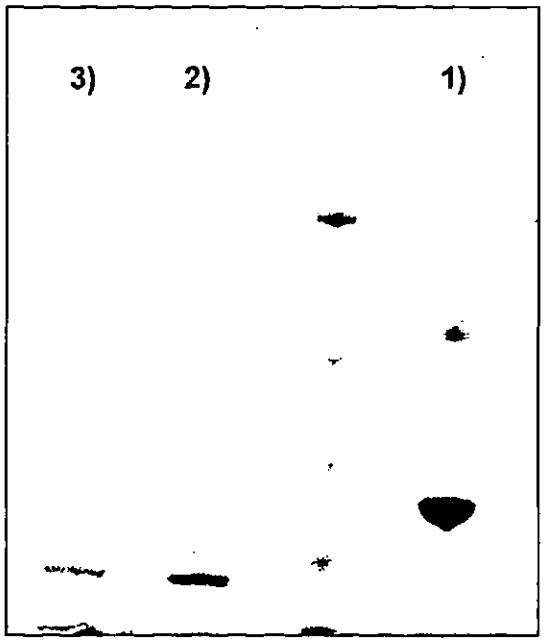


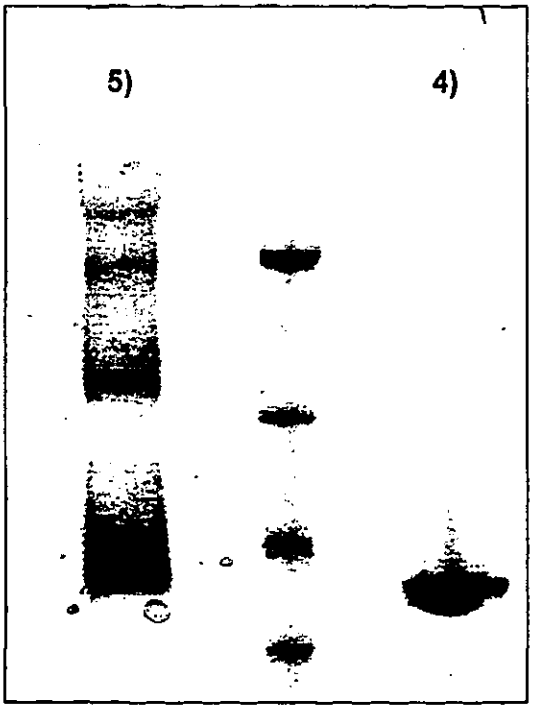
FIGURE 7



1) CRMadh (5 µg)

2) Hydrolyzed 30'-CRMadh conjugate (2.5 µg)

3) Hydrolyzed 3h-CRMadh conjugate (2.5 µg)



4) CRM (5 µg)

5) Hydrolyzed 5h-CRM conjugate (2.5 µg)

FIGURE 8

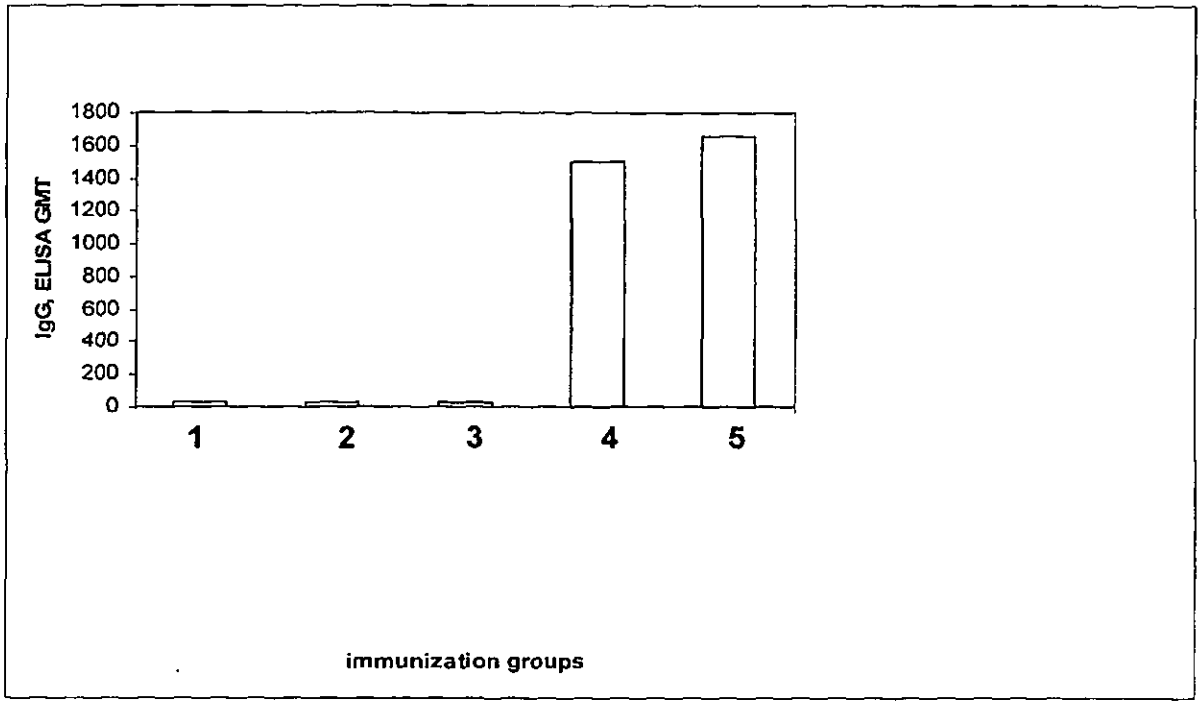

1800
1600
1400
1200
1000
800
600
400
200
0
IgG, ELISA GMT
1
2
3
4
5
immunization groups

FIGURE 9

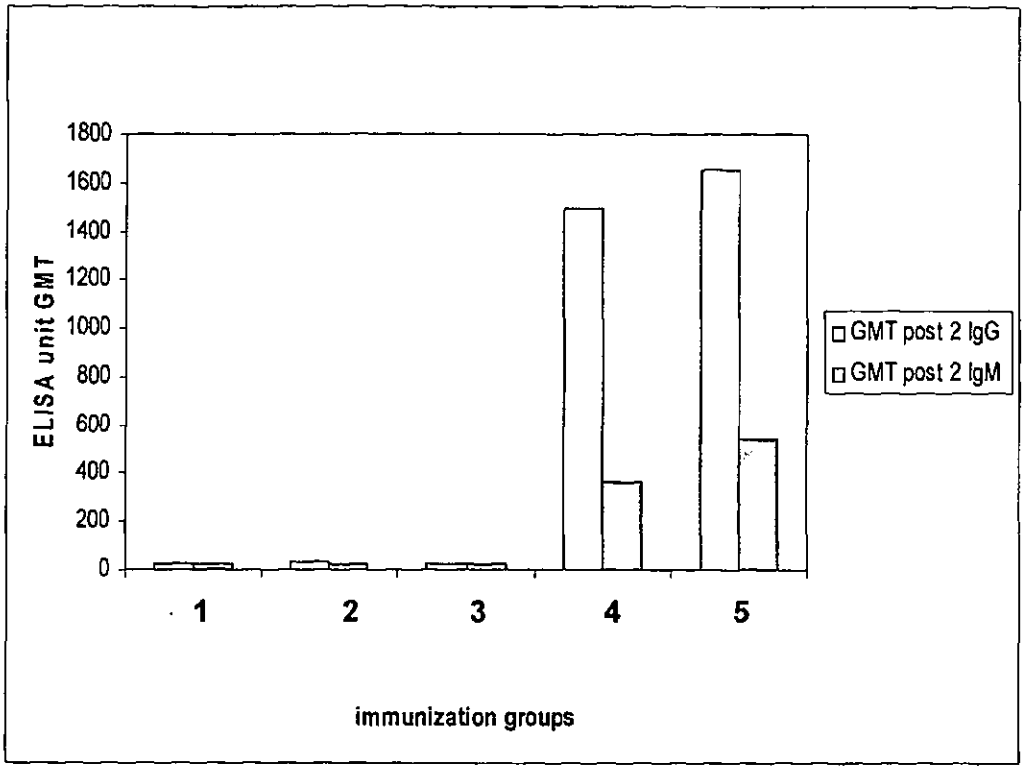

1800
1600
1400
1200
1000
800
600
400
200
0
ELISA unit GMT
1
2
3
4
5
immunization groups
GMT post 2 IgG
GMT post 2 IgM

FIGURE 10

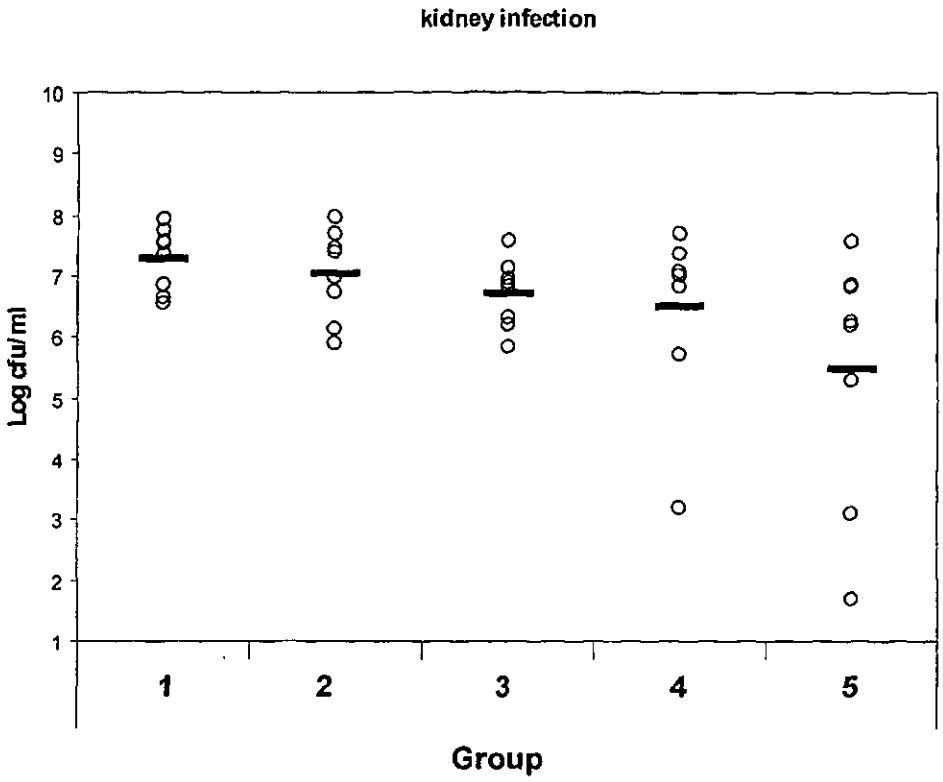


FIGURE 11

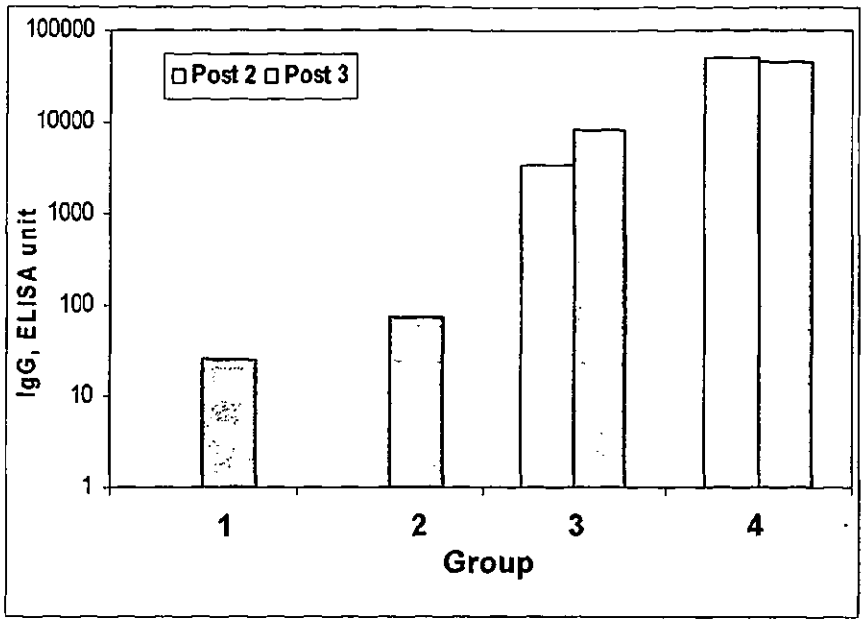

100000
10000
1000
100
10
1
IgG, ELISA unit
Post 2
Post 3
1
2
3
4
Group

FIGURE 12

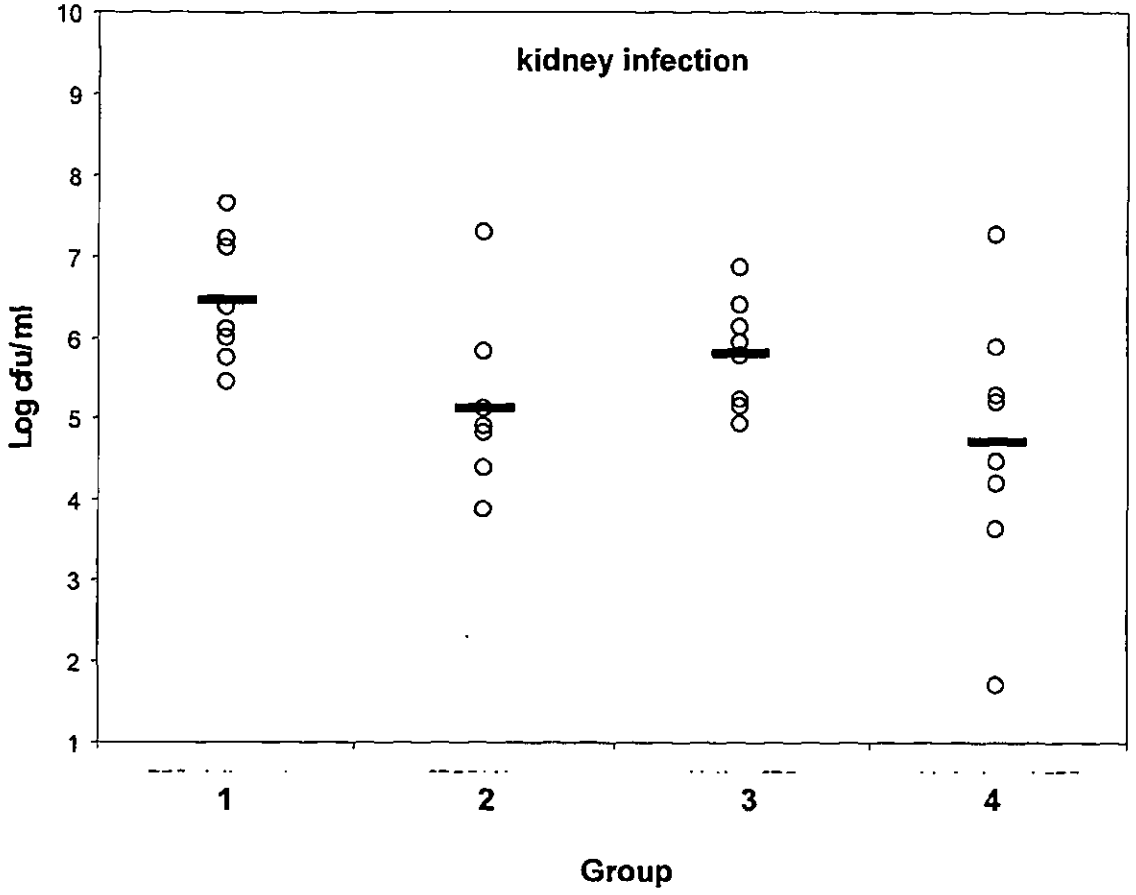


FIGURE 13A

Challenge with growth in solid medium

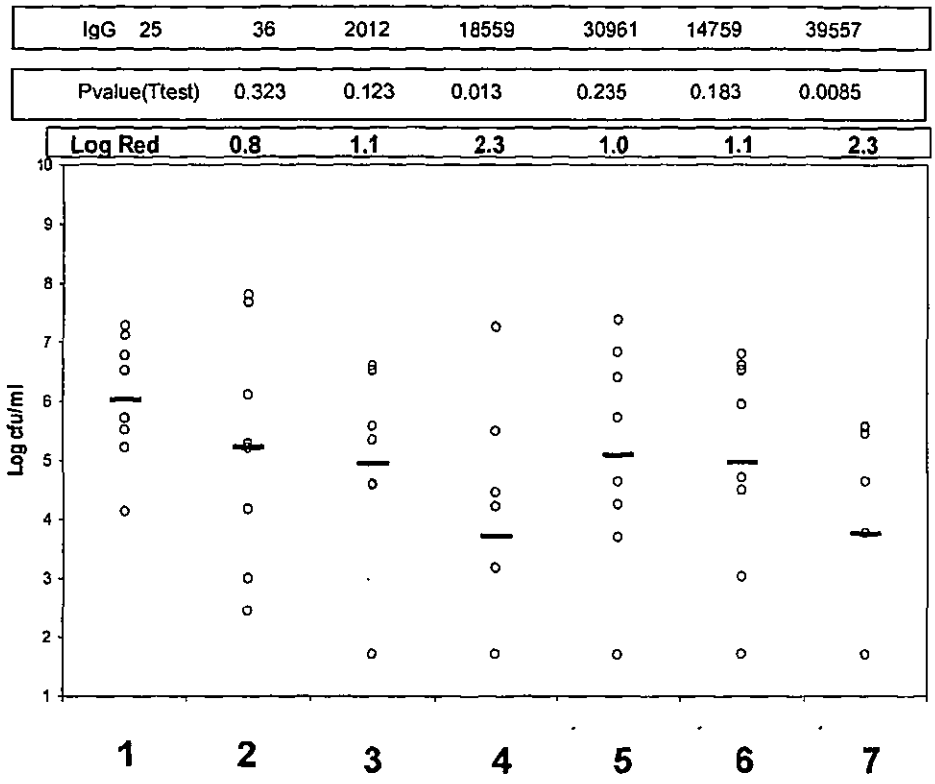


FIGURE 13B

challenge with growth in liquid medium

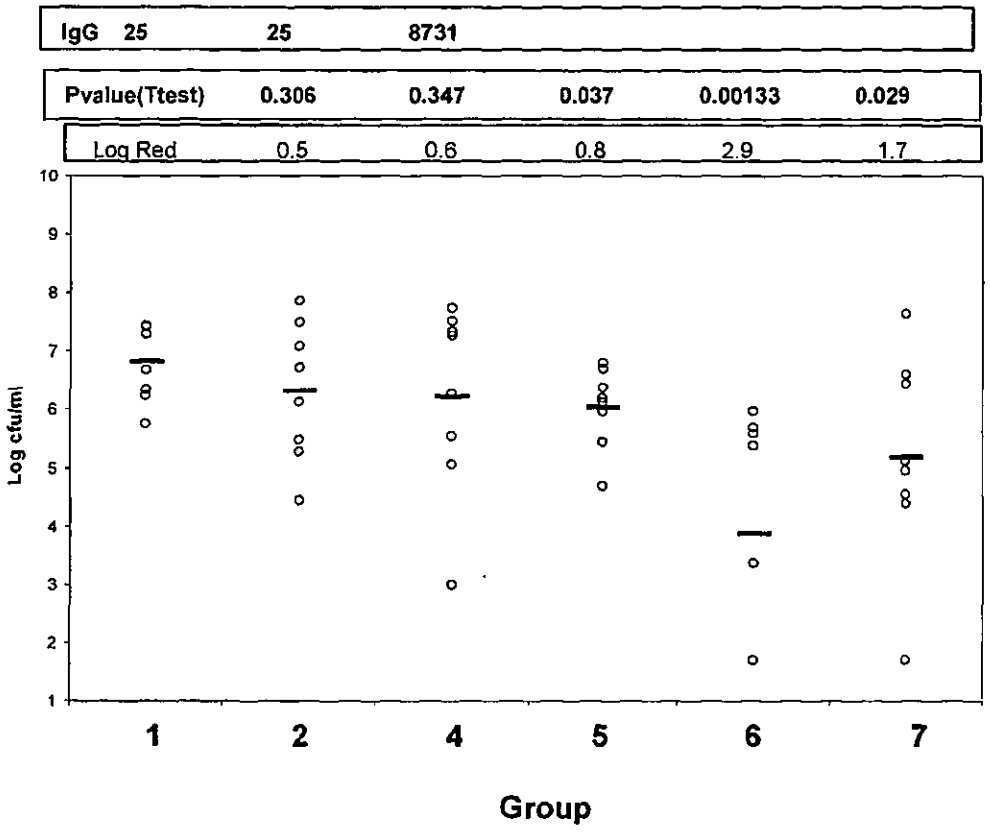
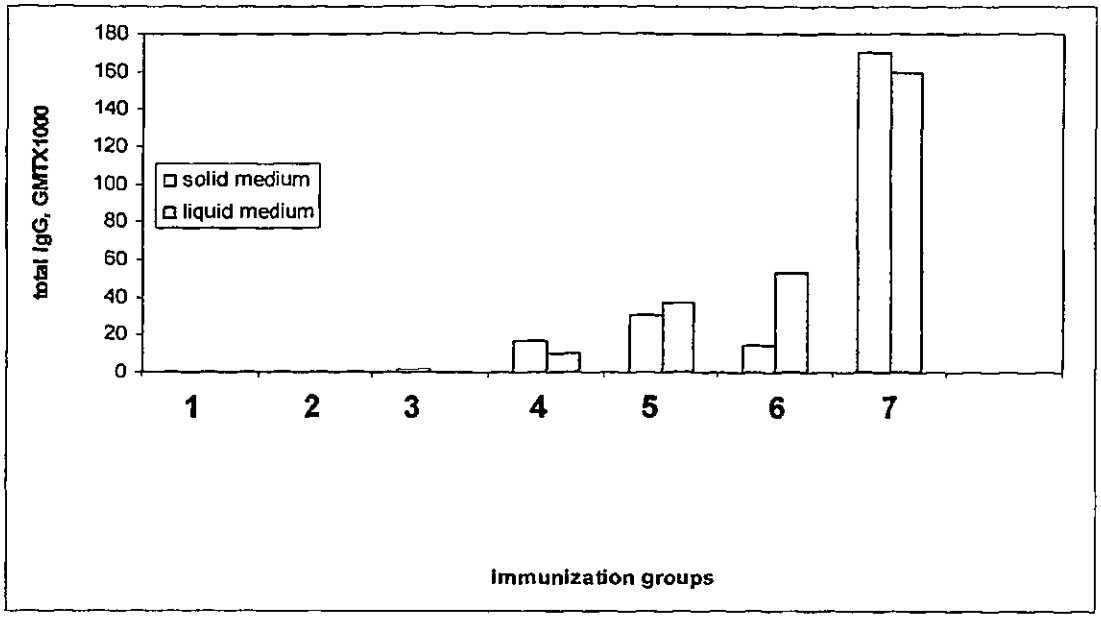


FIGURE 14


total IgG, GMTX1000
180
160
140
120
100
80
60
40
20
0
solid medium
liquid medium
1
2
3
4
5
6
7
Immunization groups

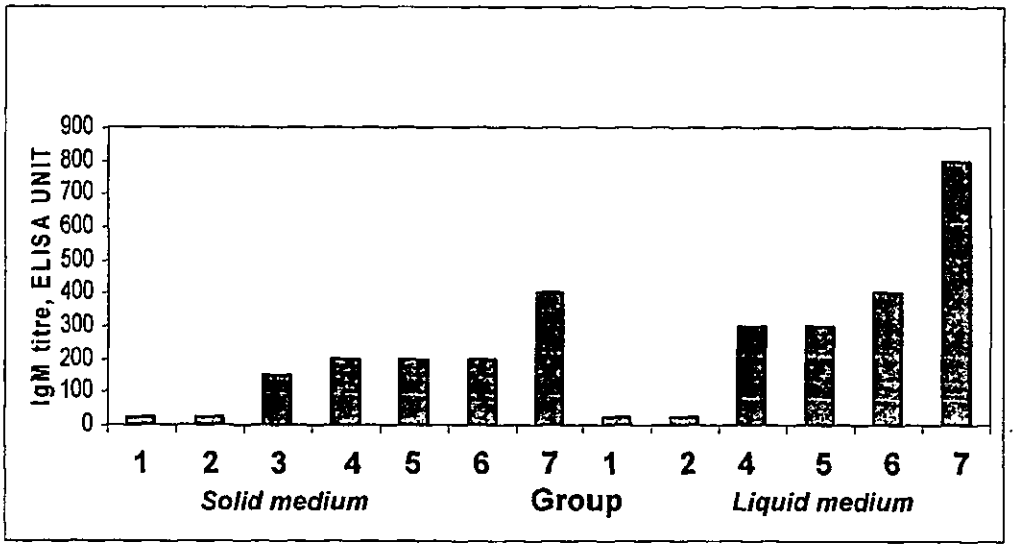

IgM titre, ELISA UNIT
900
800
700
600
500
400
300
200
100
0
1 2 3 4 5 6 7 1 2 4 5 6 7
Solid medium
Group
Liquid medium

FIGURE 15

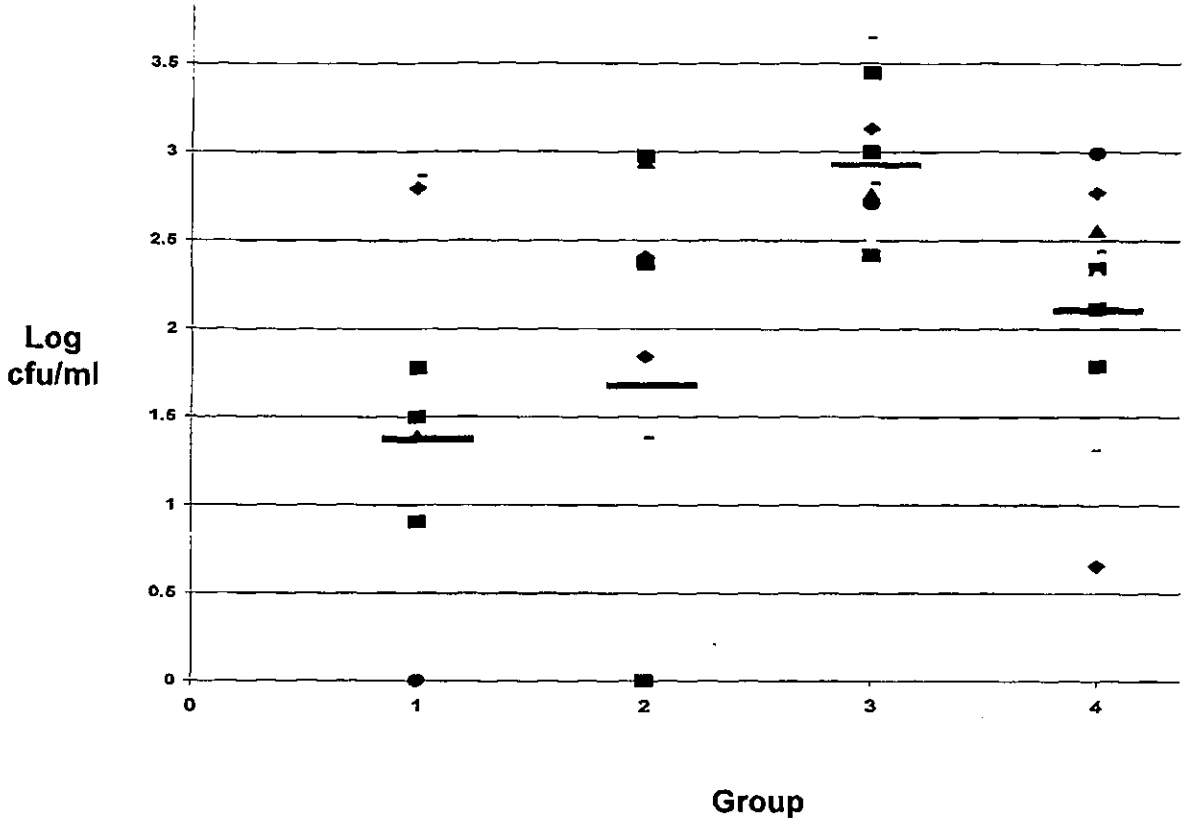


FIGURE 16

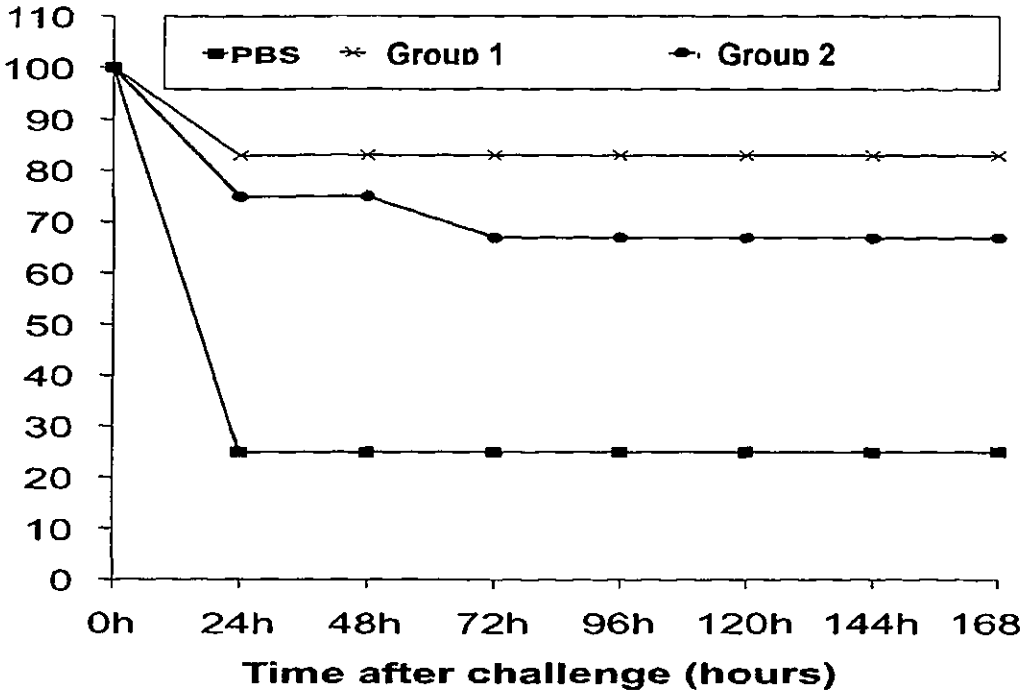

110
100
90
80
70
60
50
40
30
20
10
0
PBS
Group 1
Group 2
0h
24h
48h
72h
96h
120h
144h
168
Time after challenge (hours)

FIGURE 17

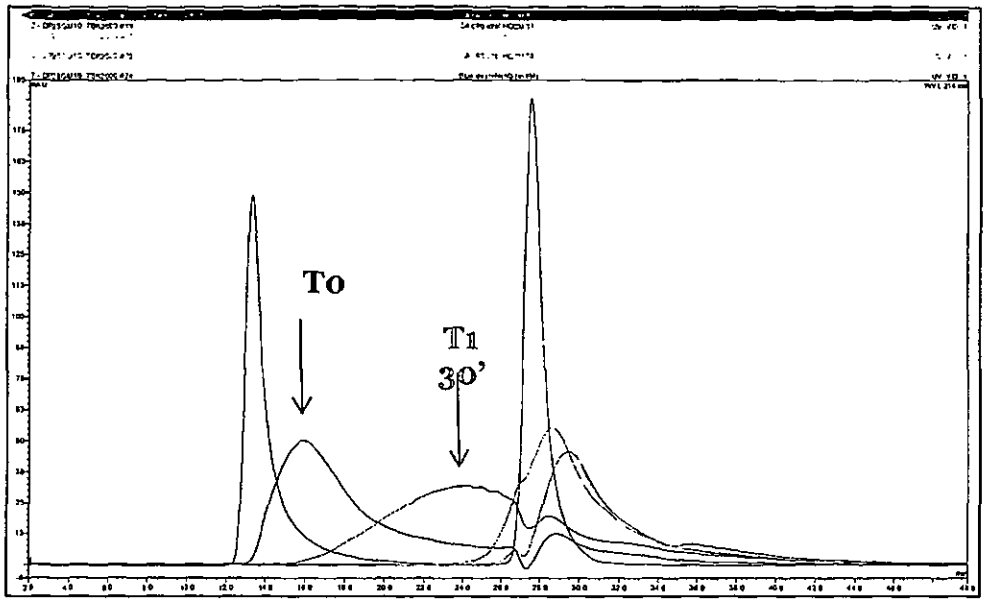


FIGURE 18

