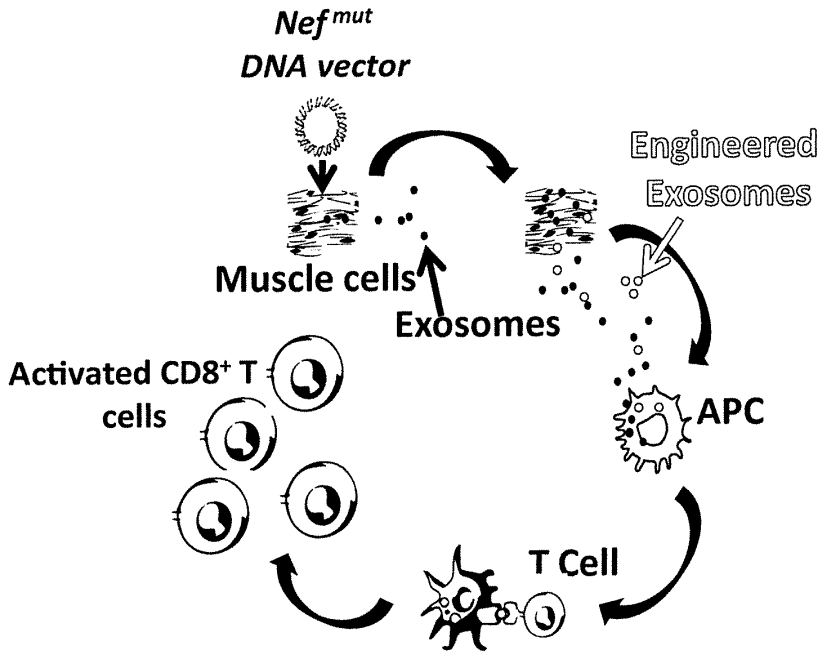

Nef mut
DNA vector
Engineered
Exosomes
Muscle cells
Exosomes
Activated CD8+ T
cells
APC
T Cell

Fig. 1

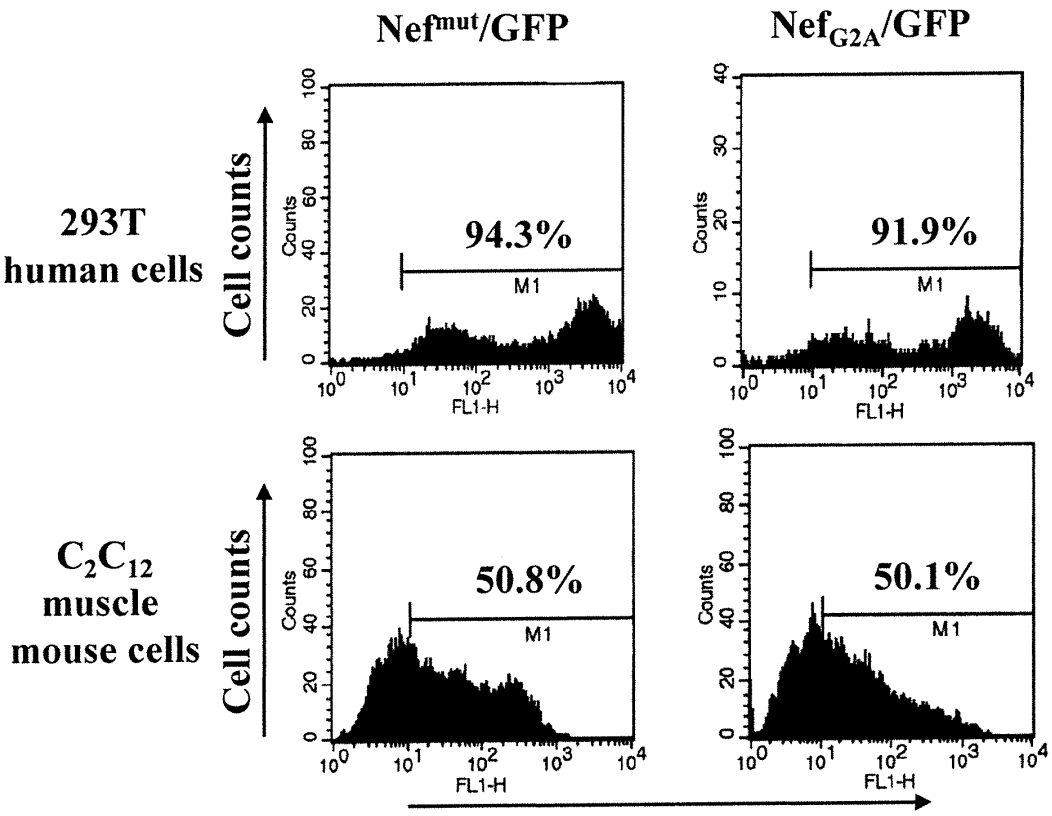

Nef^mut/GFP
Nef_G2A/GFP
293T human cells
C2C12 muscle mouse cells
Cell counts
Counts
94.3%
91.9%
50.8%
50.1%
M1
FL1-H

Fig. 2A

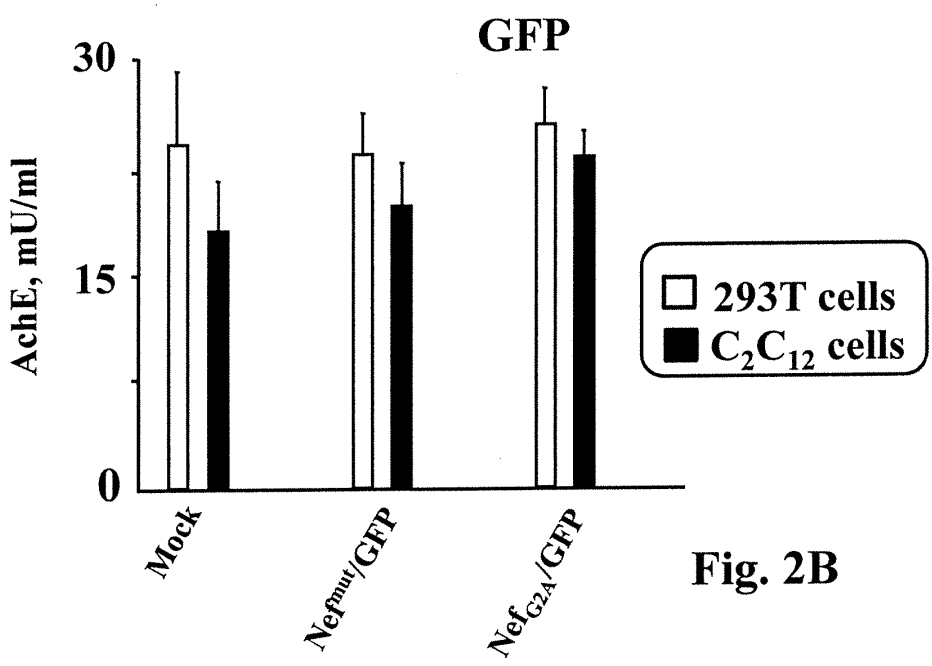

GFP
AchE, mU/ml
30
15
0
293T cells
C2C12 cells
Mock
Nef^mut/GFP
Nef_G2A/GFP

Fig. 2B

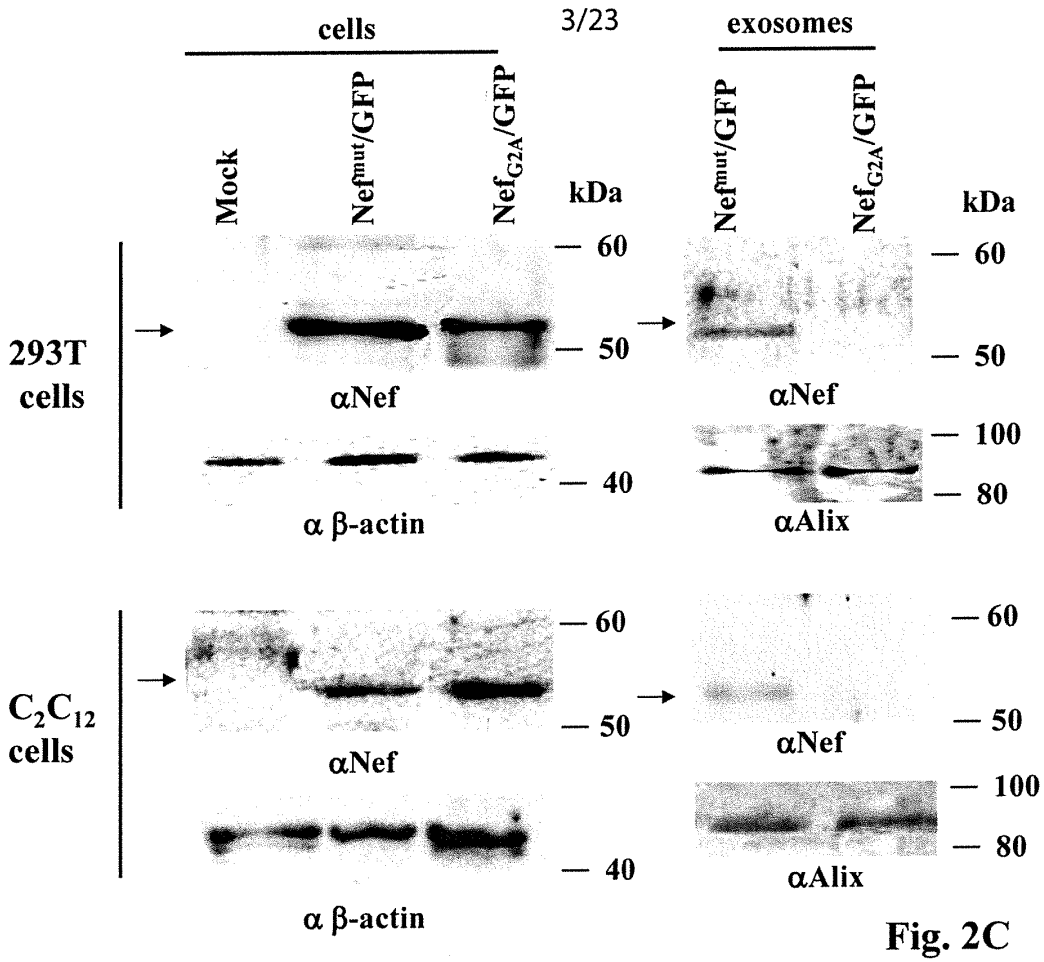

cells
exosomes
Mock
Nef^mut/GFP
Nef_G2A/GFP
kDa
293T cells
αNef
α β-actin
αAlix
C2C12 cells
60
50
40
100
80

Fig. 2C

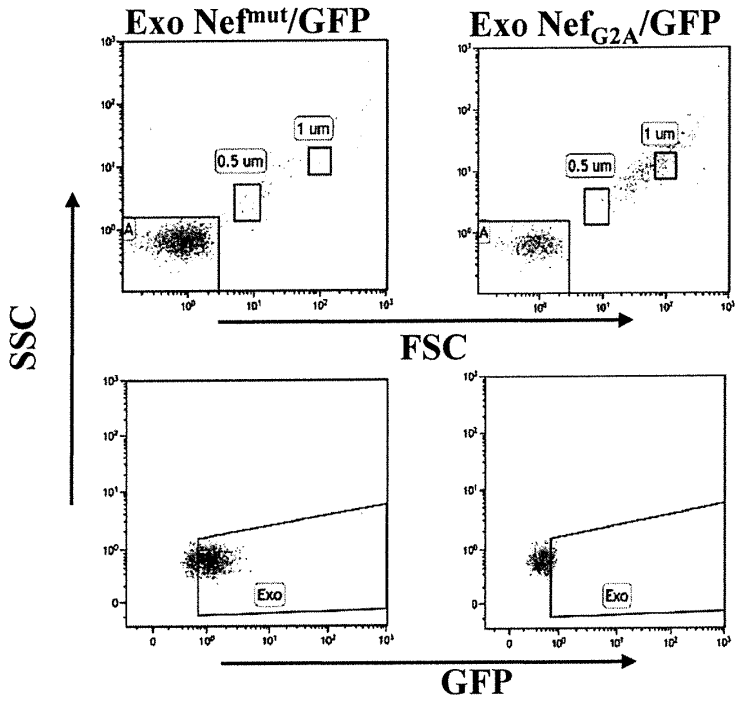
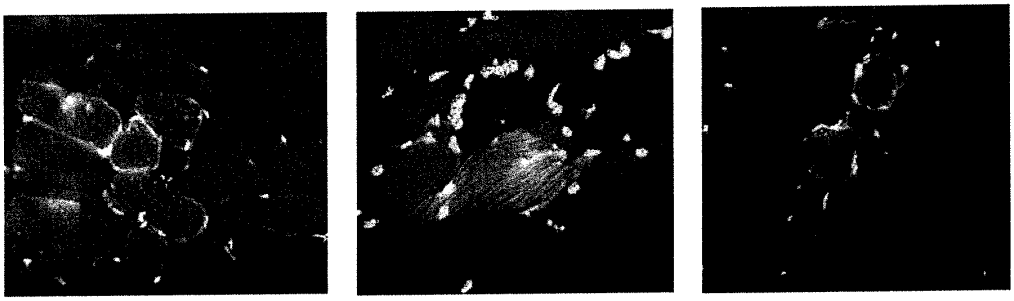

Exo Nef^mut/GFP
Exo Nef_G2A/GFP
1 um
0.5 um
SSC
FSC
Exo
GFP

Fig. 2D

Vector



Nef^{mut}-GFP



Nef_{G2A}-GFP

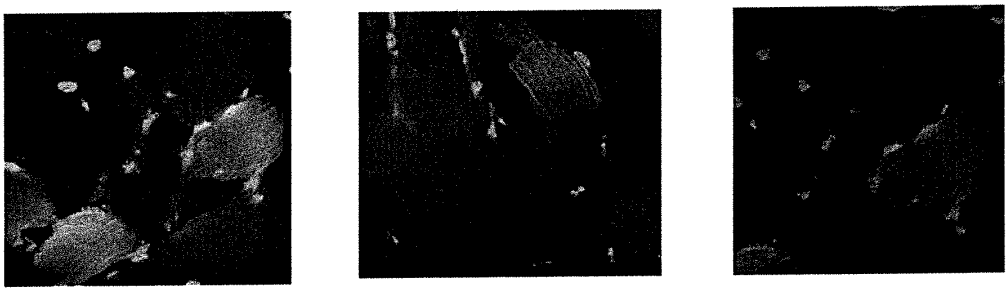


Fig. 3A

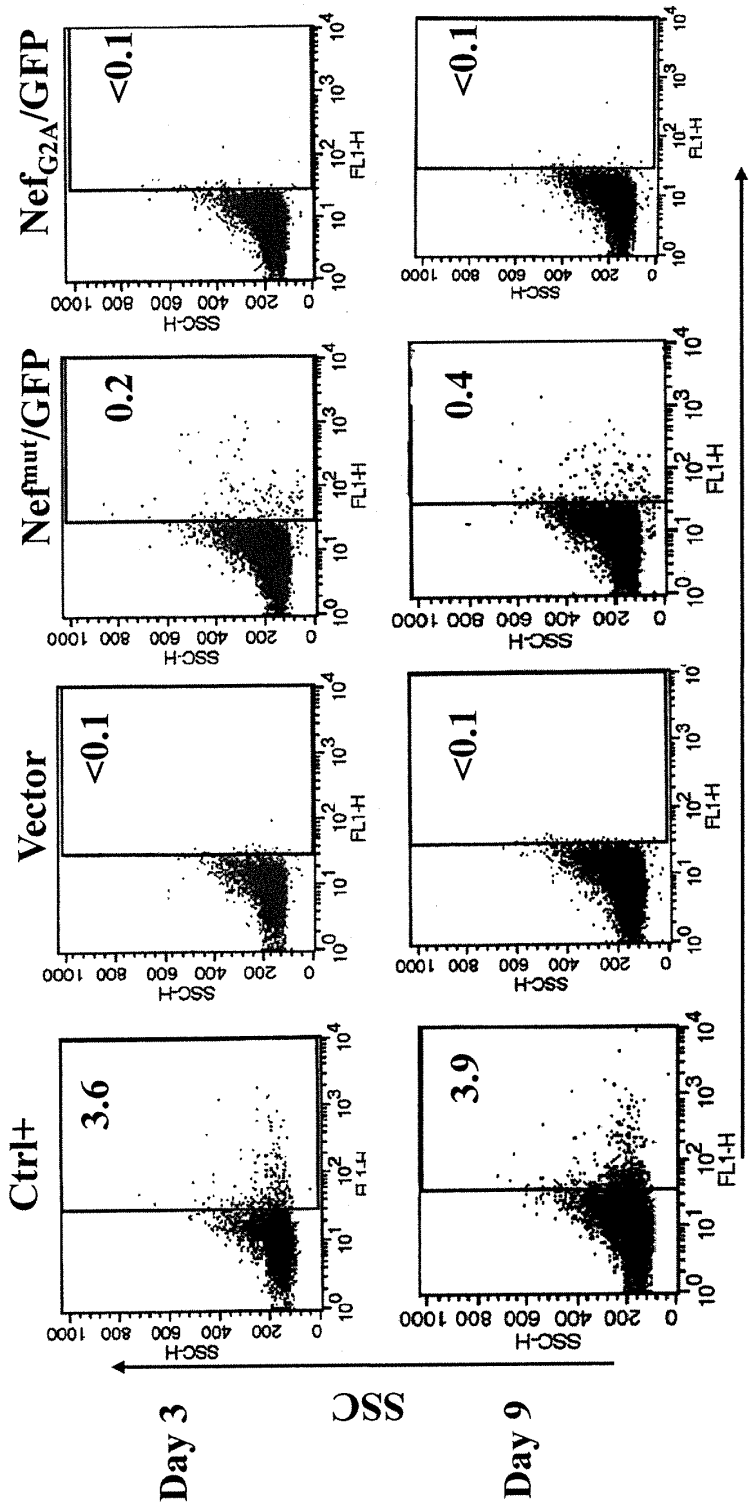

Nef$_{G2A}$/GFP
Nef^{mut}/GFP
Vector
Ctrl+
<0.1
0.2
0.4
3.6
3.9
Day 3
Day 9
SSC
GFP
SSC-H
FL1-H

Fig. 3B

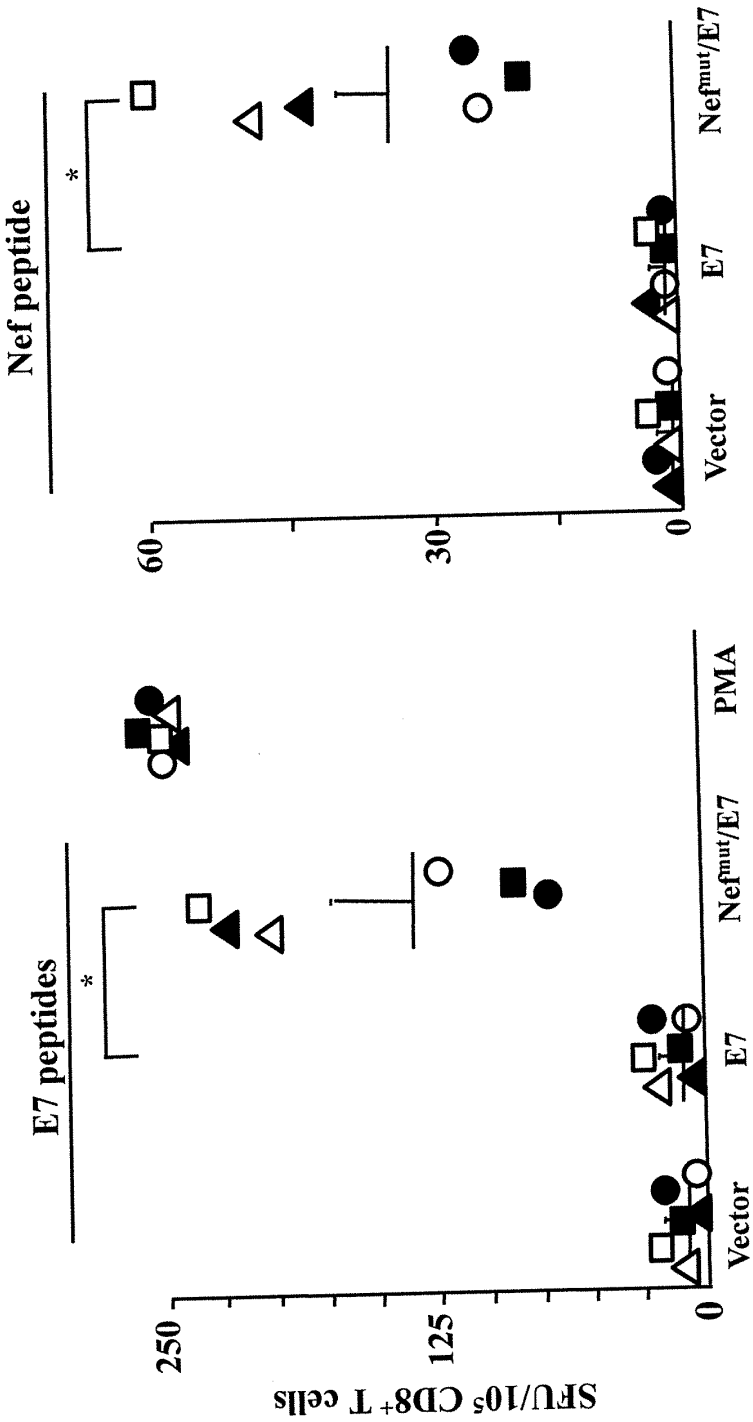

E7 peptides
Nef peptide
SFU/10⁵ CD8⁺ T cells
250
125
0
60
30
0
*
*
Vector
E7
Nef^mut/E7
PMA
Vector
E7
Nef^mut/E7

Fig. 4A

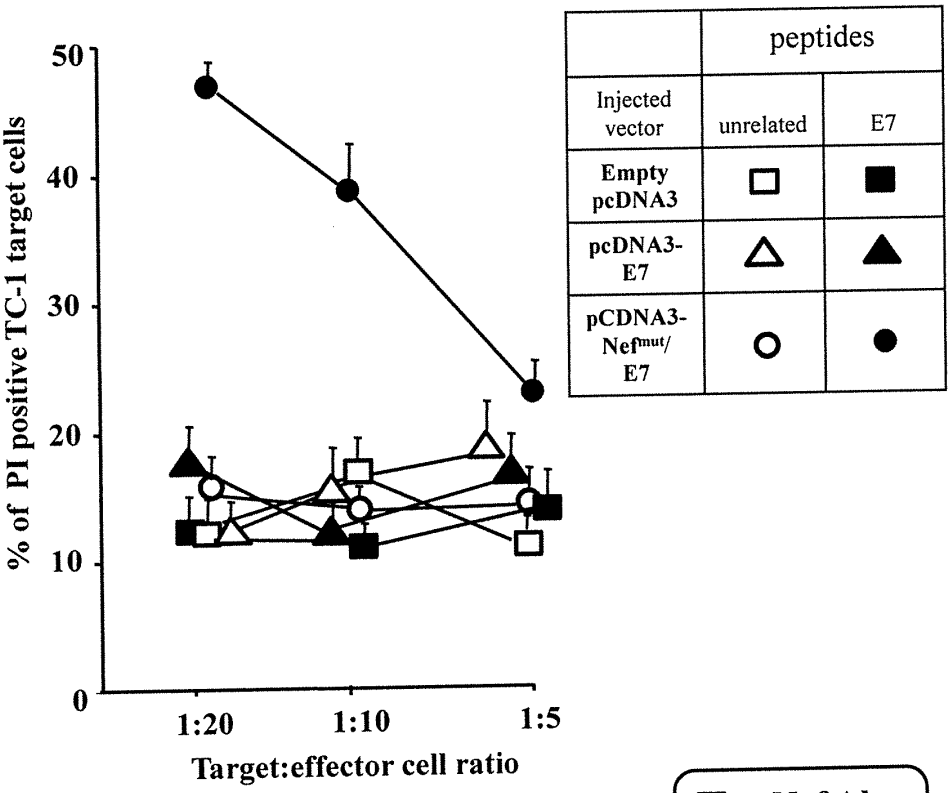
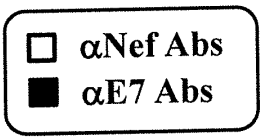

peptides
Injected vector
unrelated
E7
Empty pcDNA3
pcDNA3-E7
pCDNA3-Nefmut/E7
% of PI positive TC-1 target cells
50
40
30
20
10
0
1:20
1:10
1:5
Target:effector cell ratio

Fig. 4B


αNef Abs
αE7 Abs

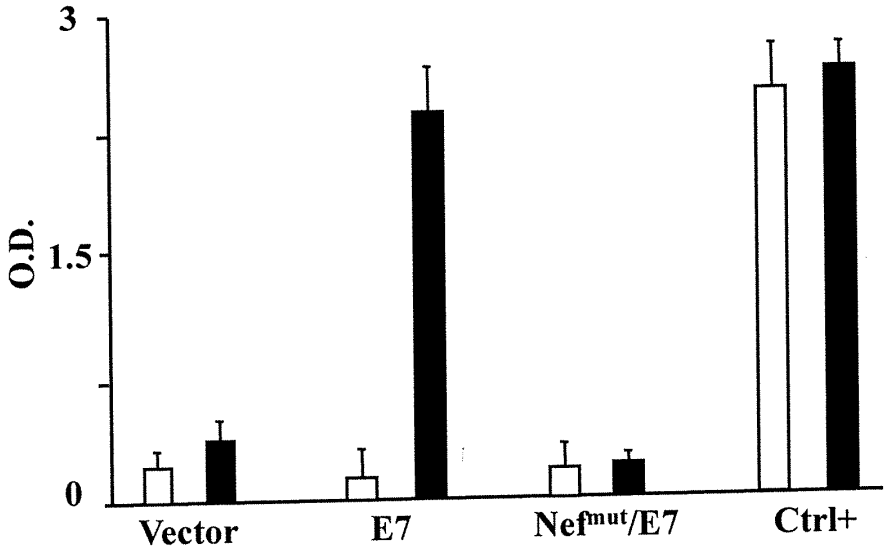

O.D.
3
1.5
0
Vector
E7
Nefmut/E7
Ctrl+

Fig. 4C

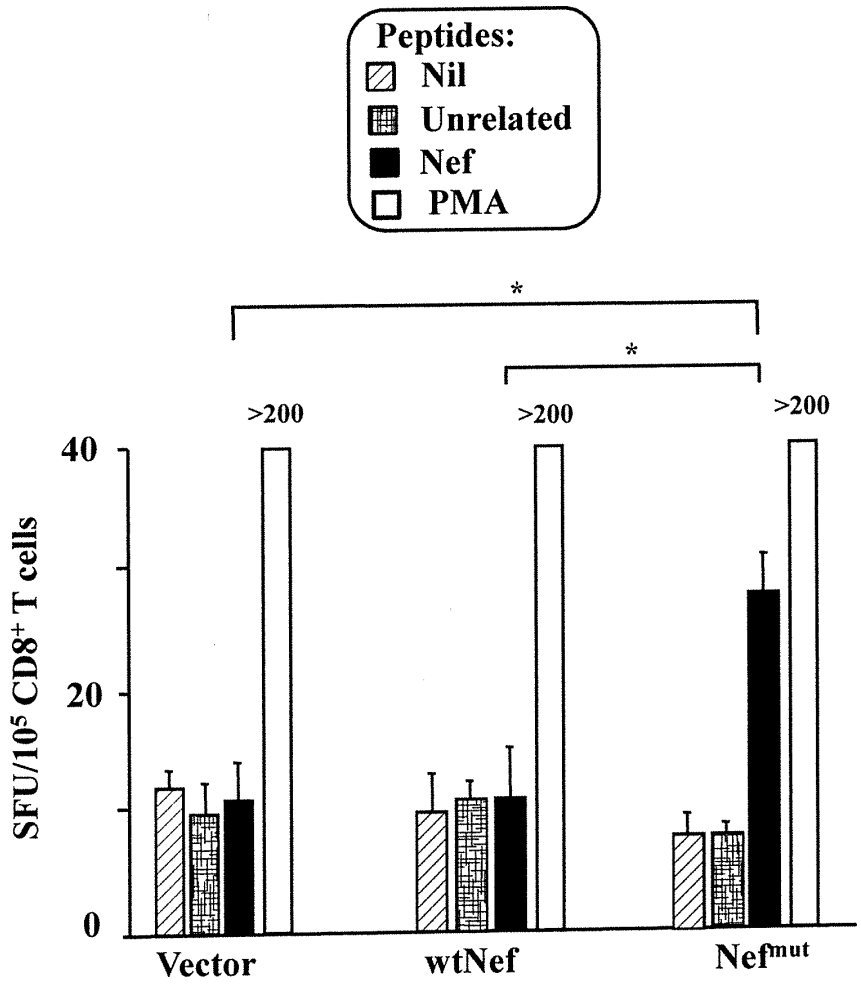

Peptides:
Nil
Unrelated
Nef
PMA
*
*
>200
>200
>200
40
20
0
SFU/10^5 CD8+ T cells
Vector
wtNef
Nef^mut

Fig. 5

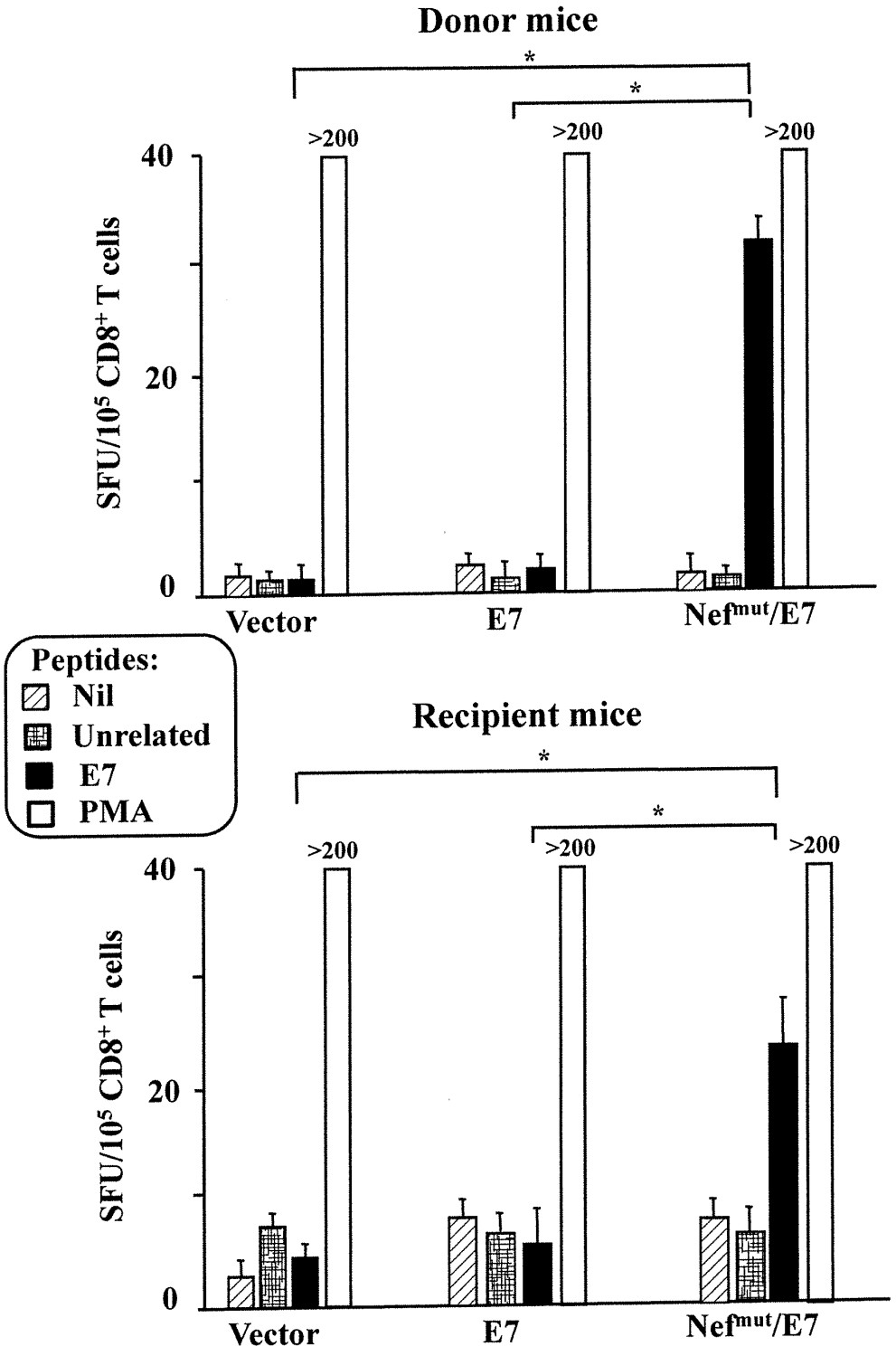

Donor mice
*
*
>200
>200
>200
40
20
0
SFU/10^5 CD8+ T cells
Vector
E7
Nef^mut/E7
Peptides:
Nil
Unrelated
E7
PMA
Recipient mice
*
*
>200
>200
>200
40
20
0
SFU/10^5 CD8+ T cells
Vector
E7
Nef^mut/E7

Fig. 6

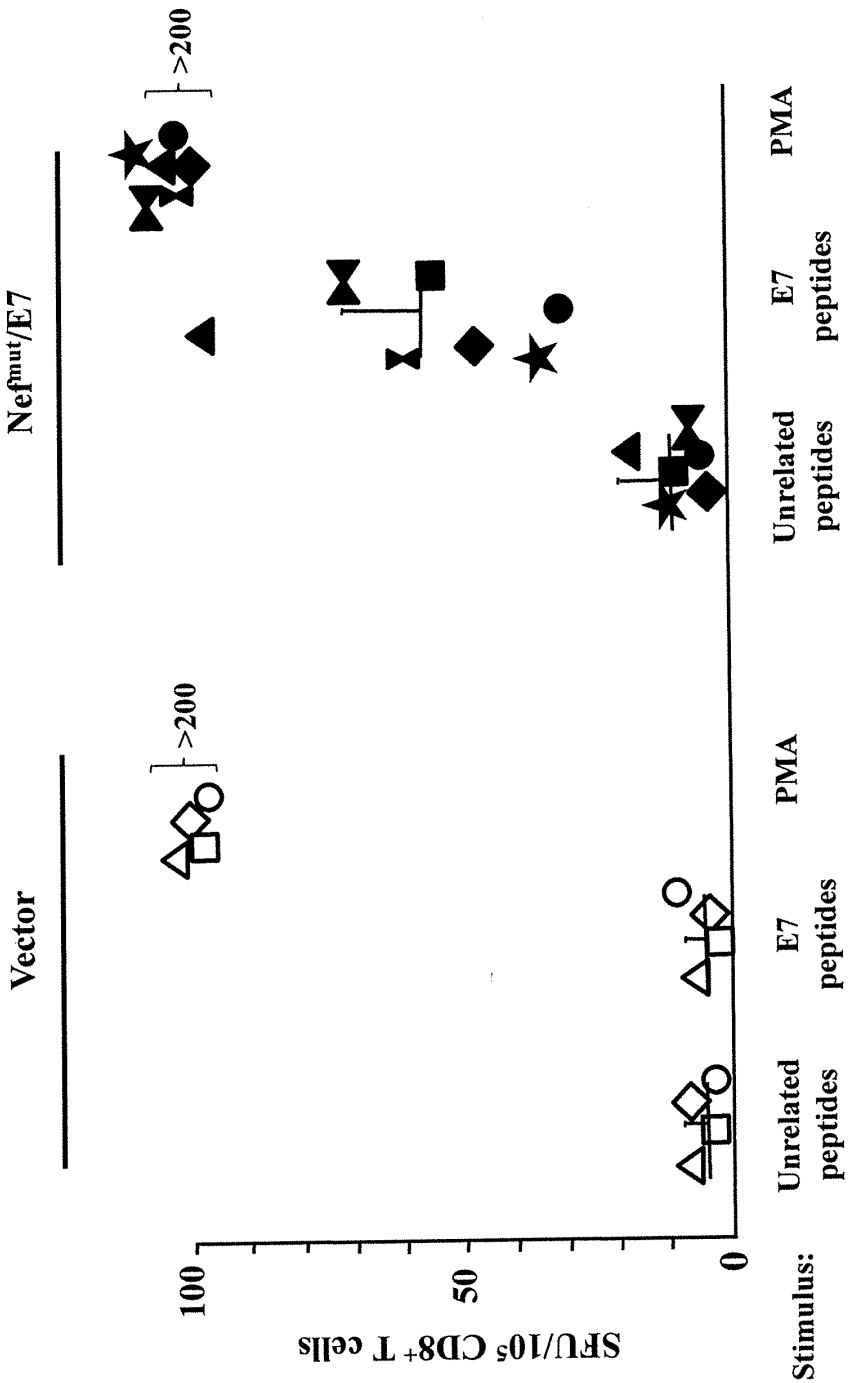

Vector
Nef^mut/E7
>200
>200
100
50
0
SFU/10^5 CD8+ T cells
Stimulus:
Unrelated peptides
E7 peptides
PMA
Unrelated peptides
E7 peptides
PMA

Fig. 7A

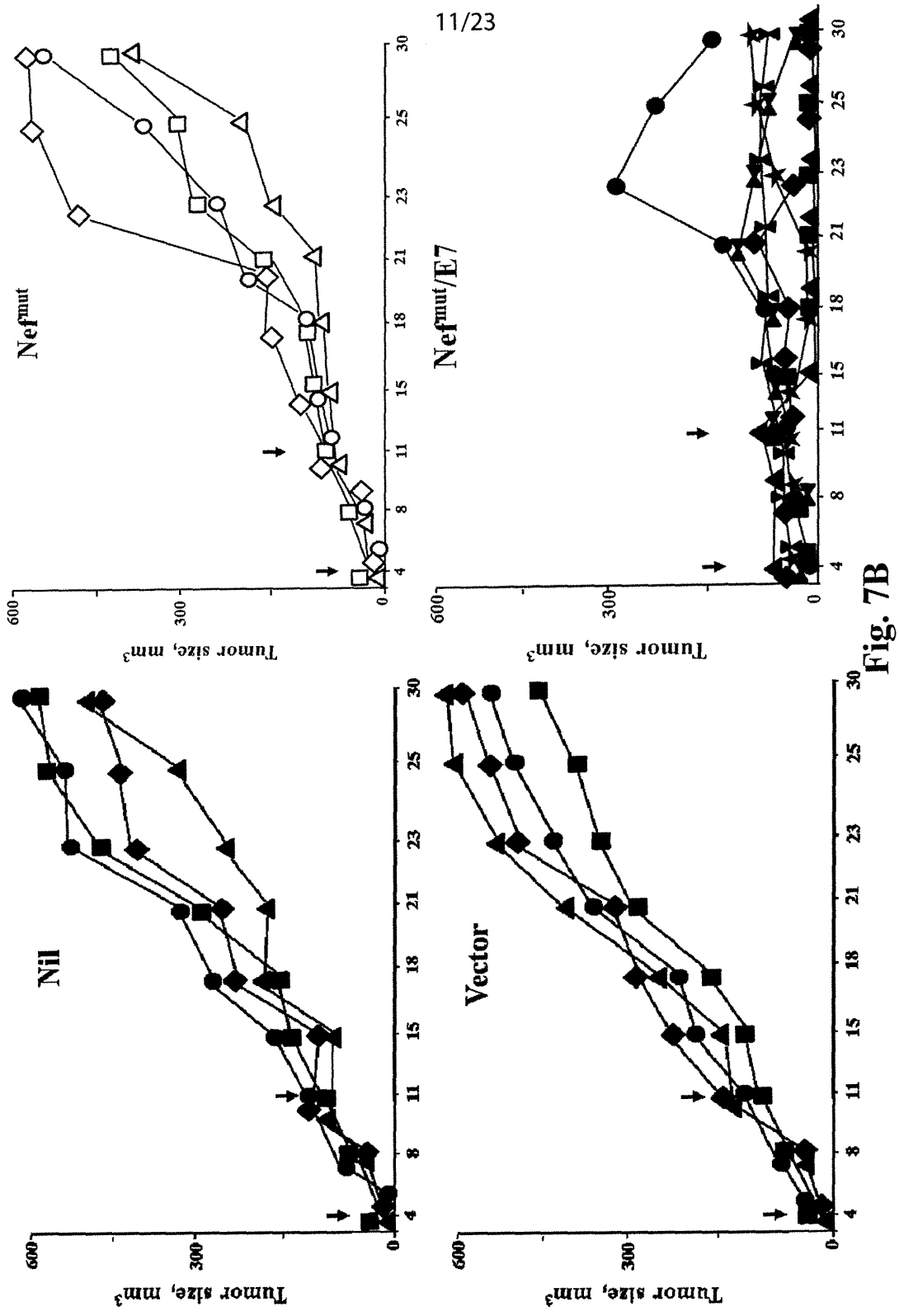

Nef^mut
Nef^mut/E7
Nil
Vector
Tumor size, mm3
0
300
600
4
8
11
15
18
21
23
25
30

Fig. 7B

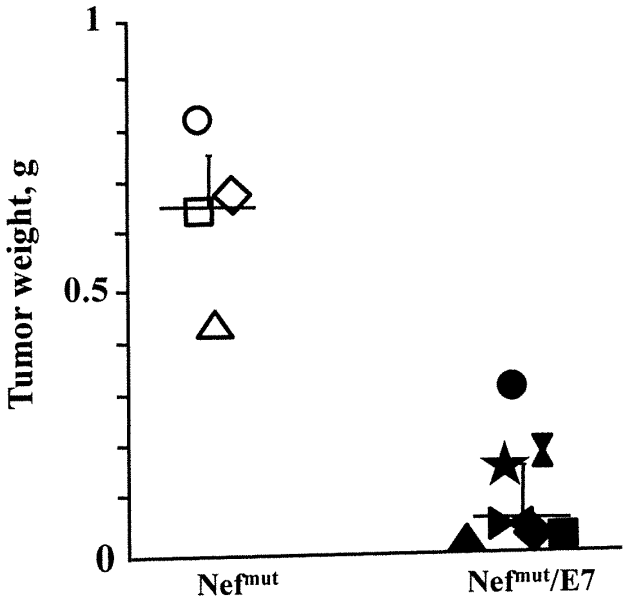


Fig. 7C

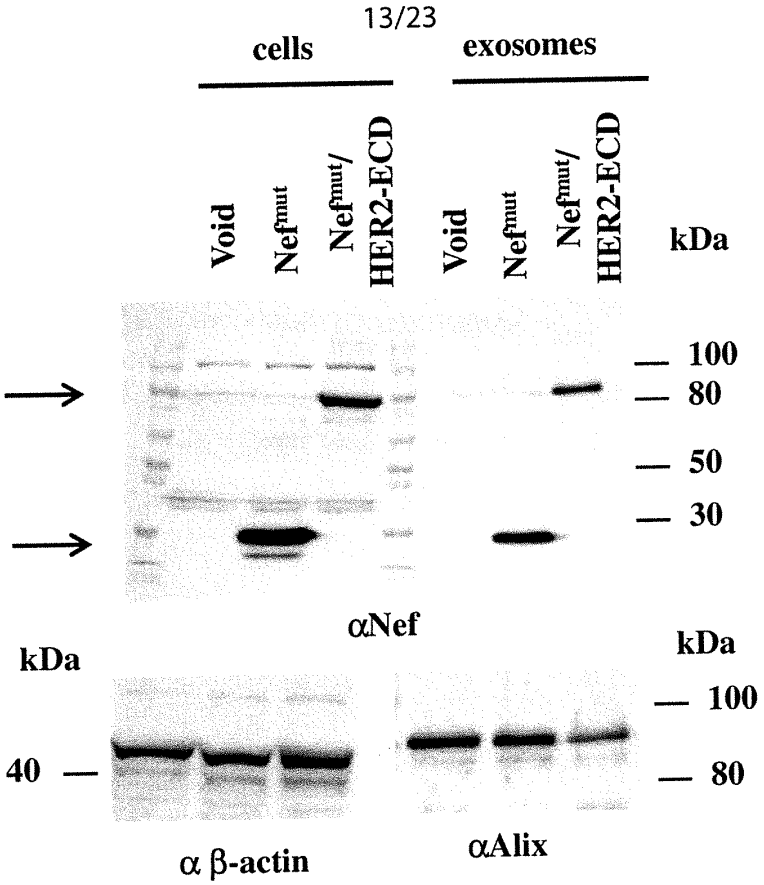

cells
exosomes
Void
Nef^mut
Nef^mut/ HER2-ECD
Void
Nef^mut
Nef^mut/ HER2-ECD
kDa
100
80
50
30
αNef
kDa
kDa
40
100
80
α β-actin
αAlix

Fig. 8

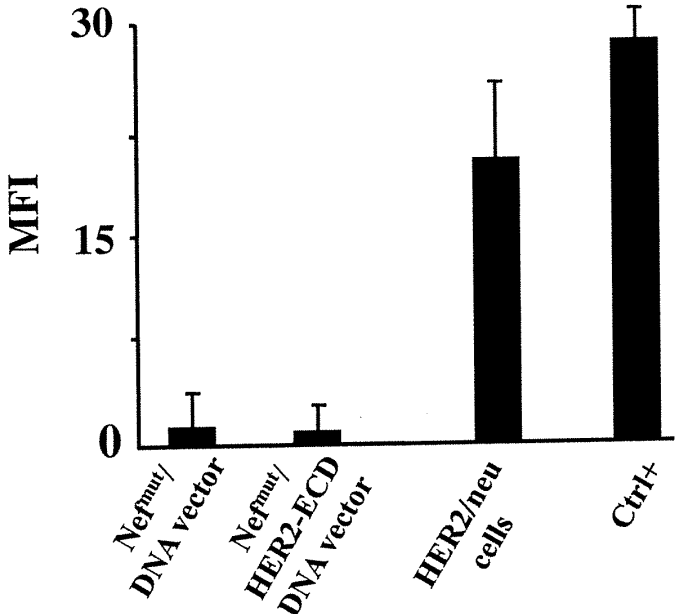

30
15
0
MFI
Nef^mut/ DNA vector
Nef^mut/ HER2-ECD DNA vector
HER2/neu cells
Ctrl+

Fig. 9

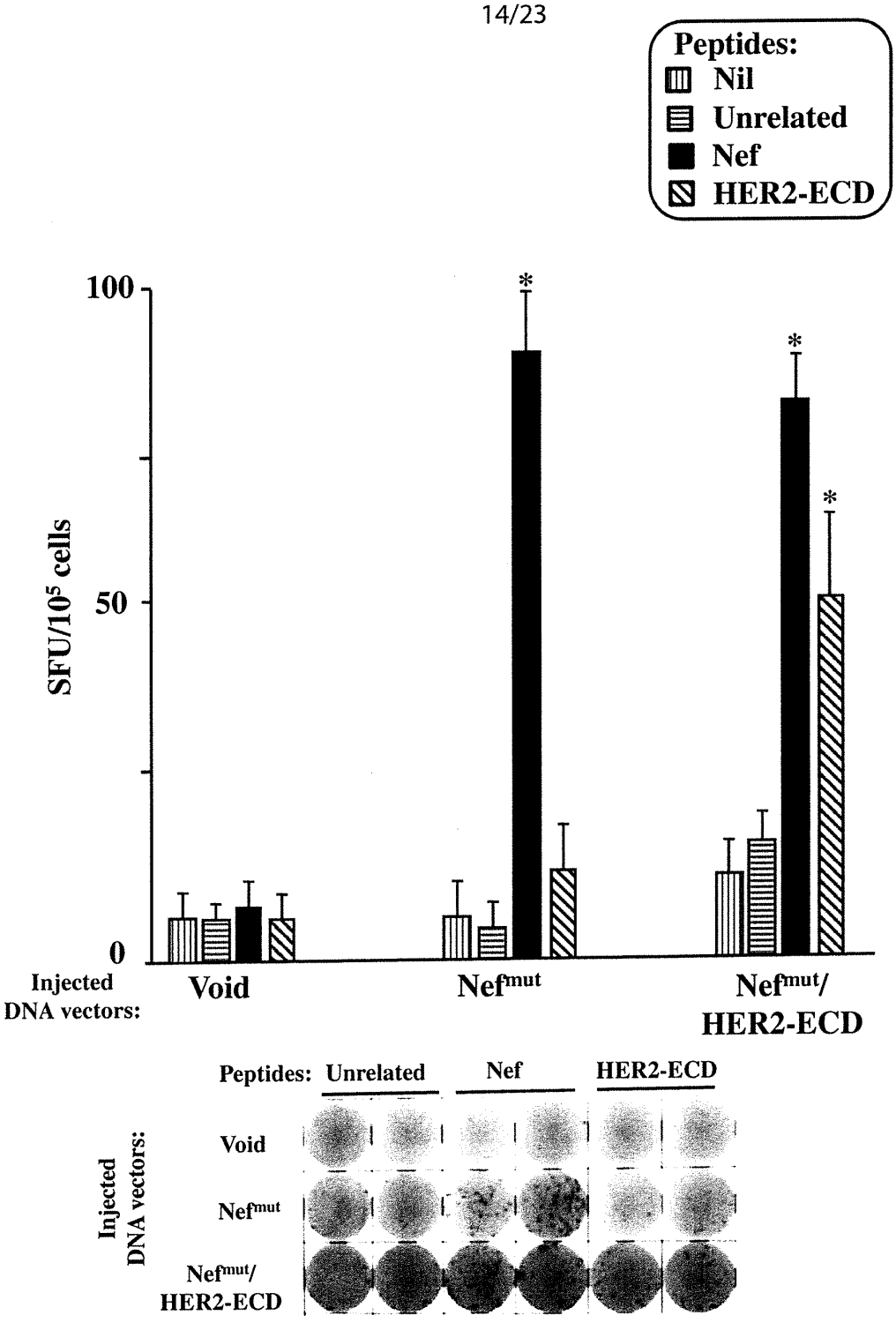

Peptides:
Nil
Unrelated
Nef
HER2-ECD
100
50
0
SFU/10^5 cells
*
*
*
Injected DNA vectors:
Void
Nef^mut
Nef^mut/ HER2-ECD
Peptides: Unrelated
Nef
HER2-ECD
Injected DNA vectors:
Void
Nef^mut
Nef^mut/ HER2-ECD

Fig. 10

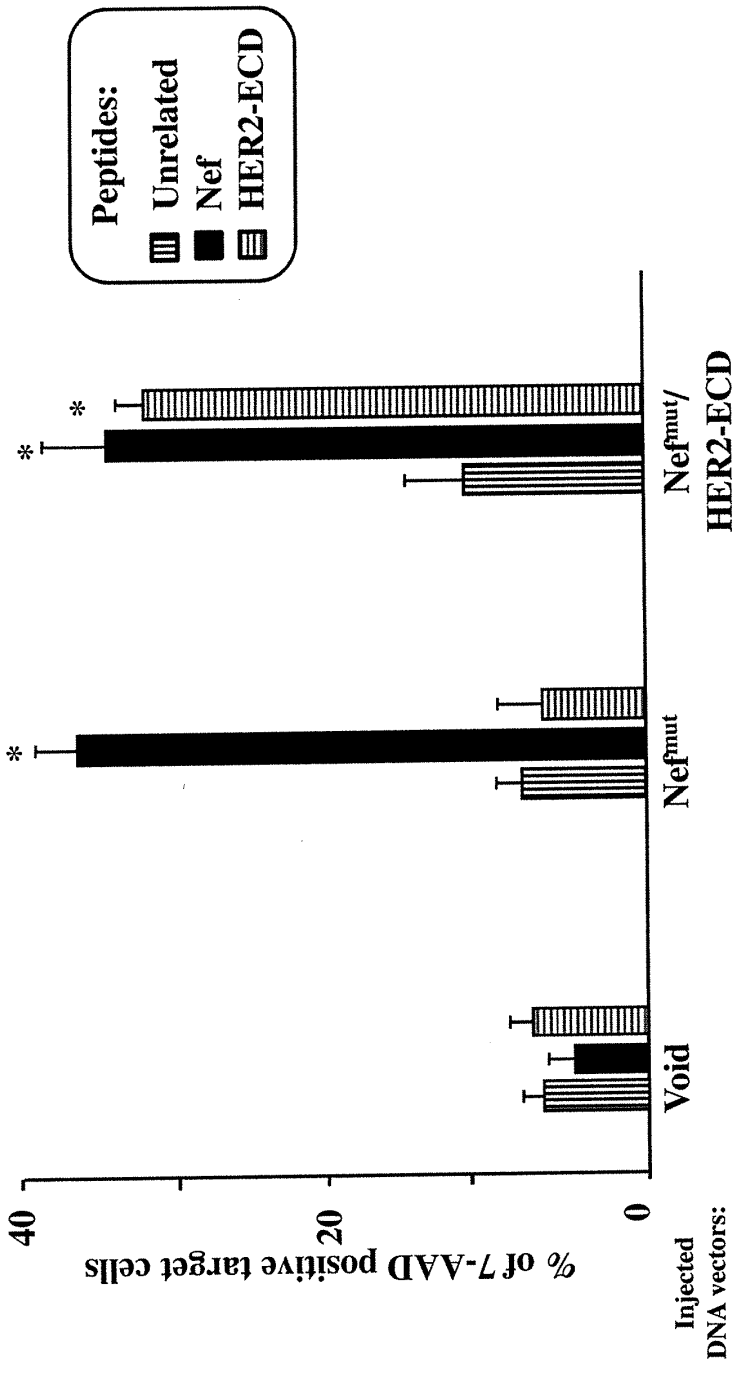

Peptides:
Unrelated
Nef
HER2-ECD
% of 7-AAD positive target cells
0
20
40
*
*
*
Void
Nefmut
Nefmut/
HER2-ECD
Injected
DNA vectors:

Fig. 11A

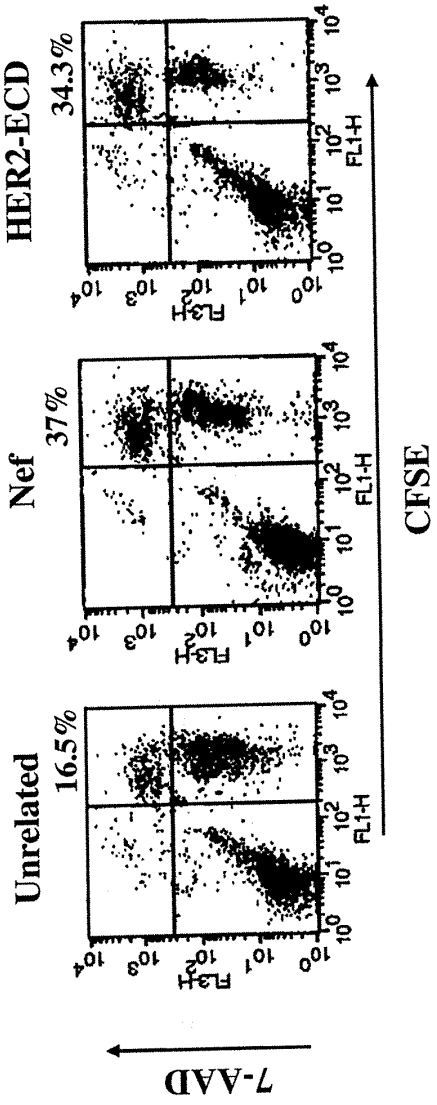


Fig. 11B

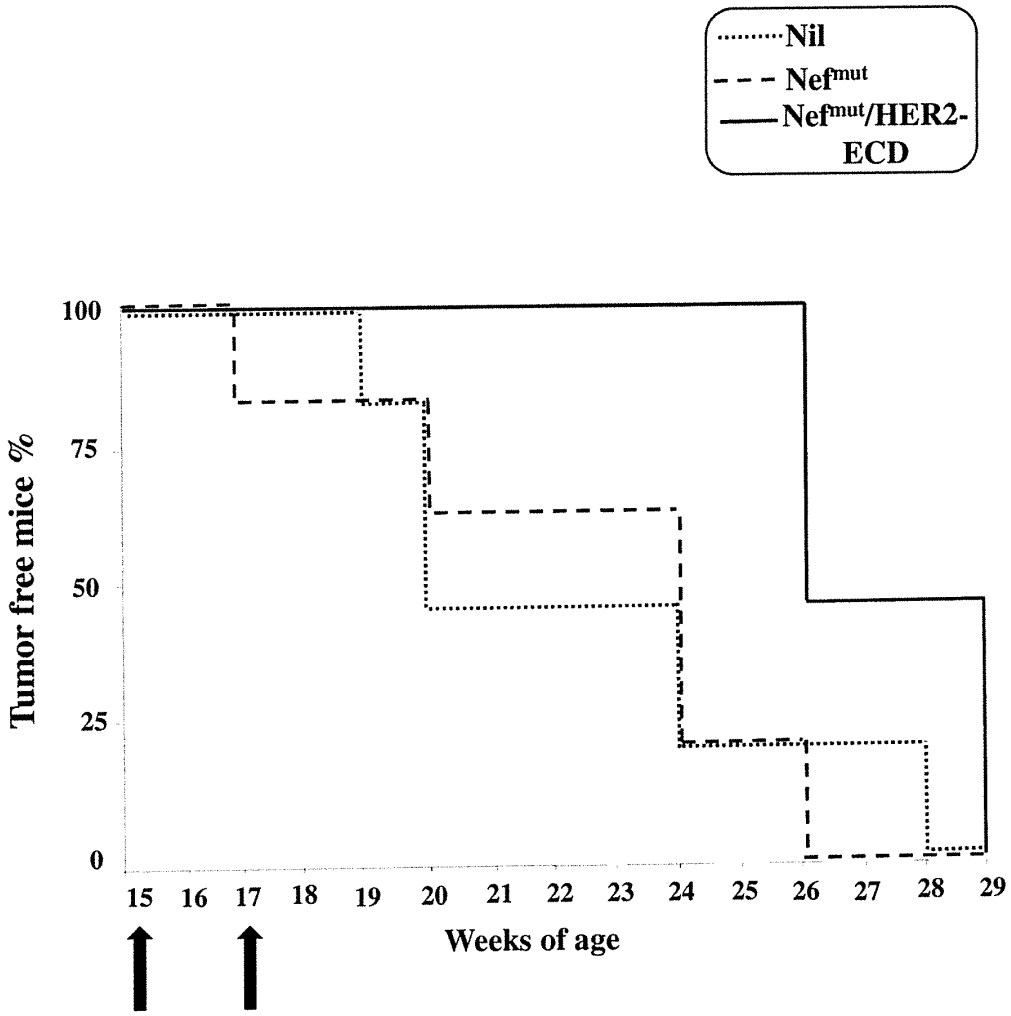

Nil
Nef^mut
Nef^mut/HER2-ECD
Tumor free mice %
100
75
50
25
0
15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
Weeks of age

Fig. 12A

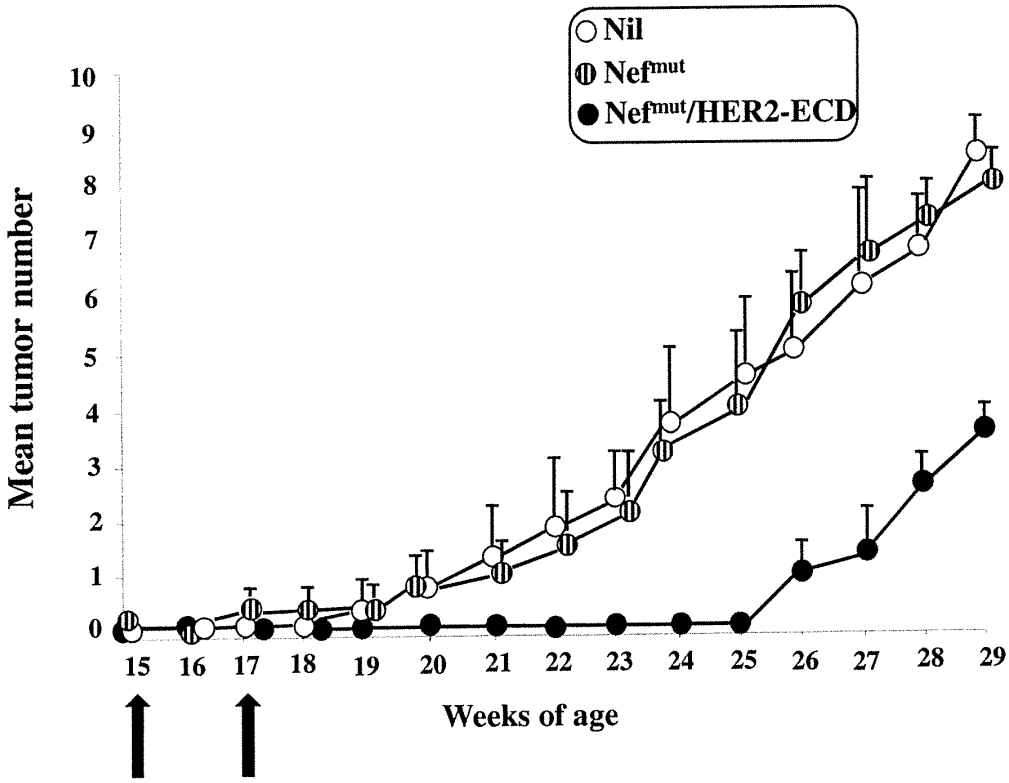

Nil
Nefmut
Nefmut/HER2-ECD
Mean tumor number
0
1
2
3
4
5
6
7
8
9
10
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
Weeks of age

Fig. 12B

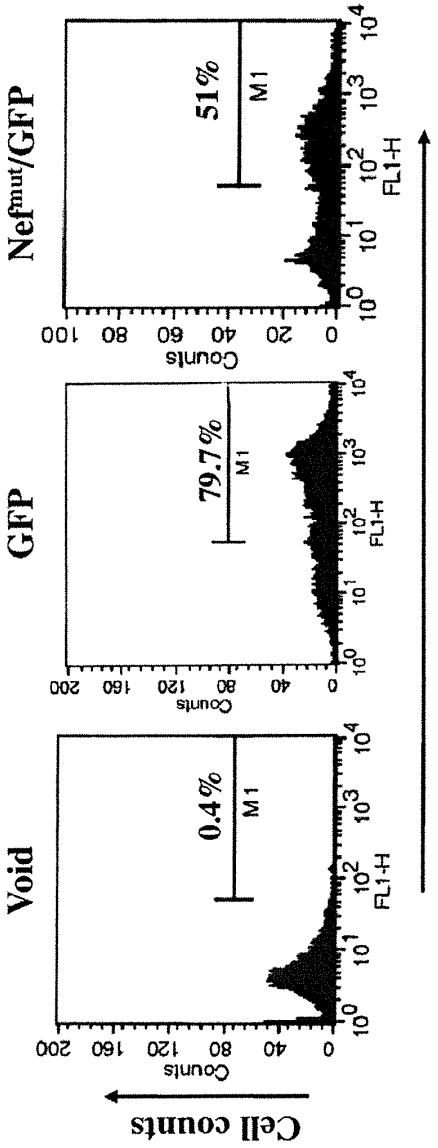


Fig. 13A

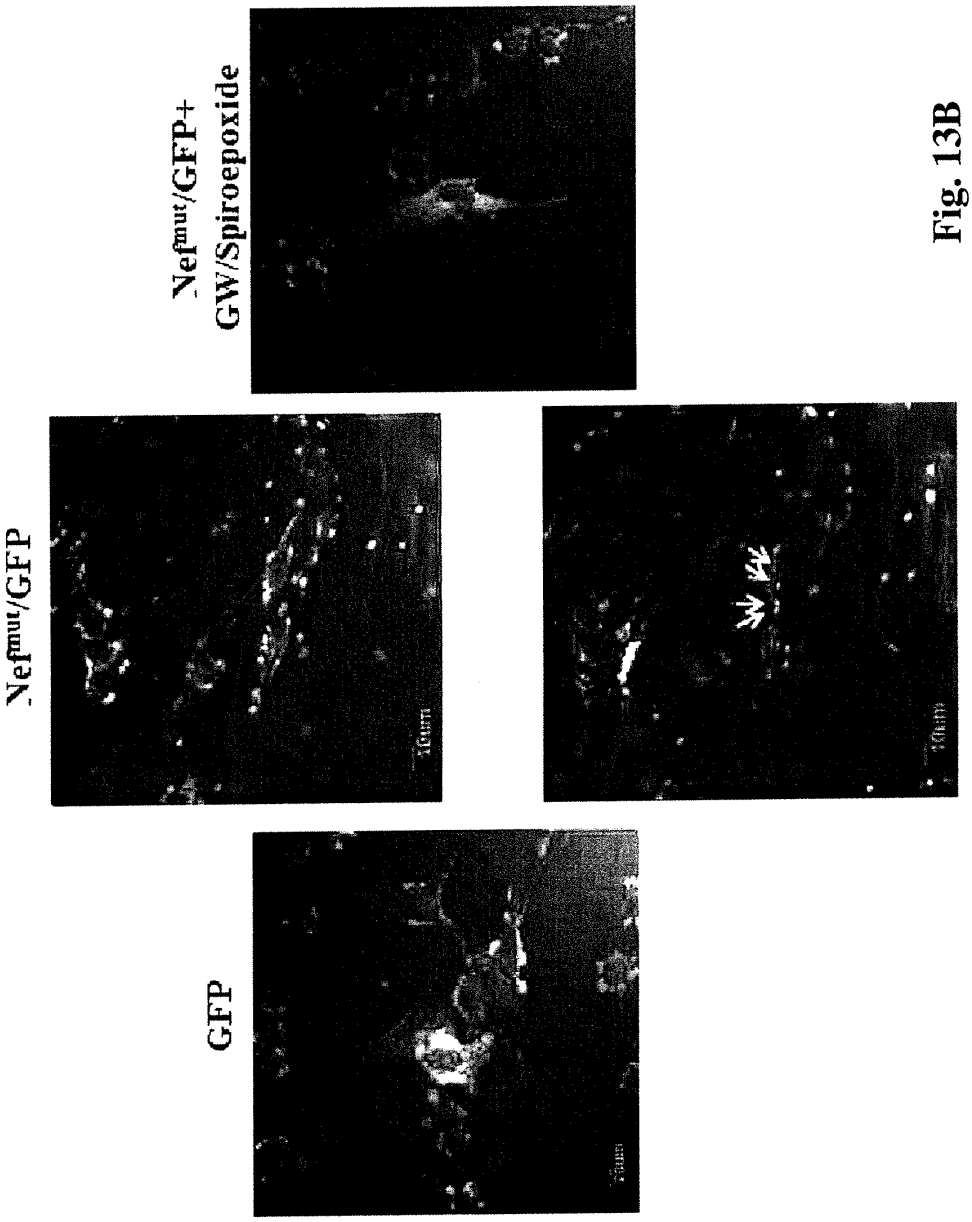


Fig. 13B

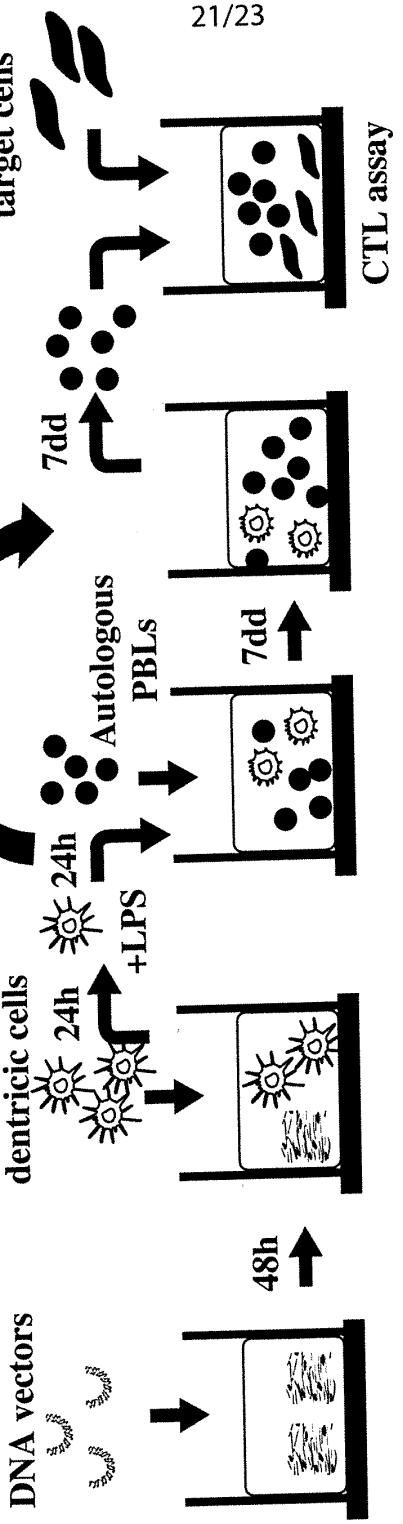

DNA vectors
48h
Monocyte-derived dentricic cells
24h
+LPS
24h
Autologous PBLs
7dd
7dd
CD8+ T lymphocytes
Class I MHC matched target cells
CTL assay

Fig. 14A

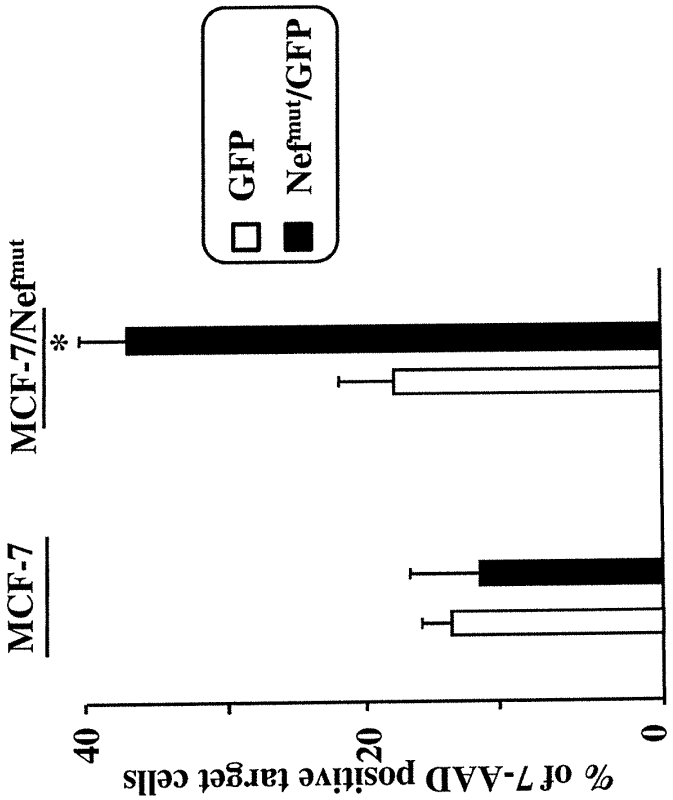


Fig. 14C



Fig. 14B

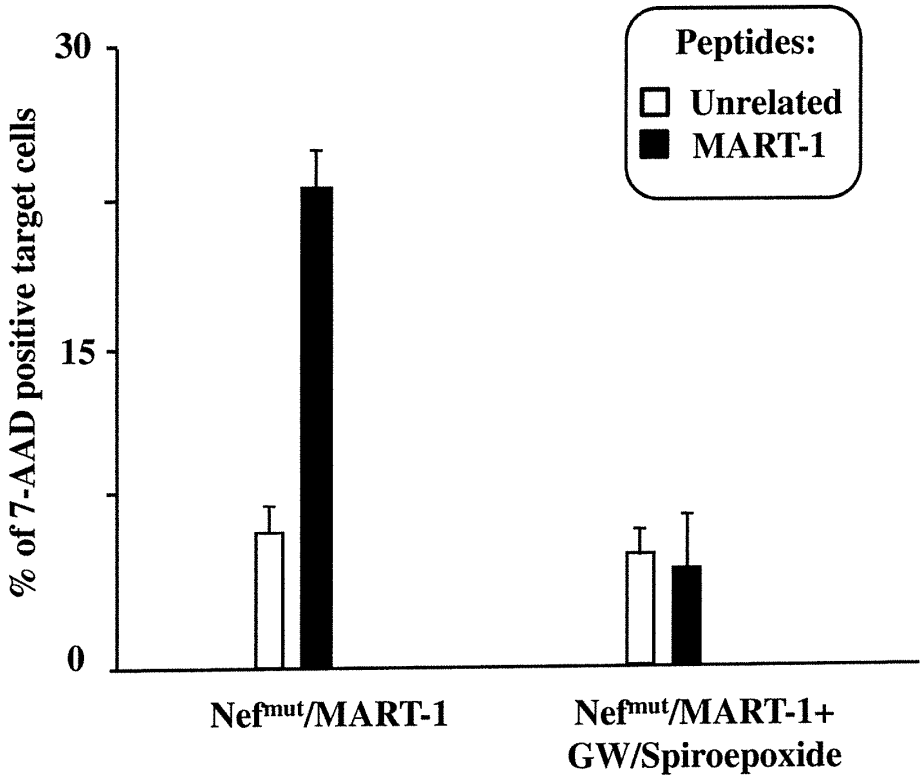

Peptides:
Unrelated
MART-1
30
15
0
% of 7-AAD positive target cells
Nefmut/MART-1
Nefmut/MART-1+
GW/Spiroepoxide

Fig. 15