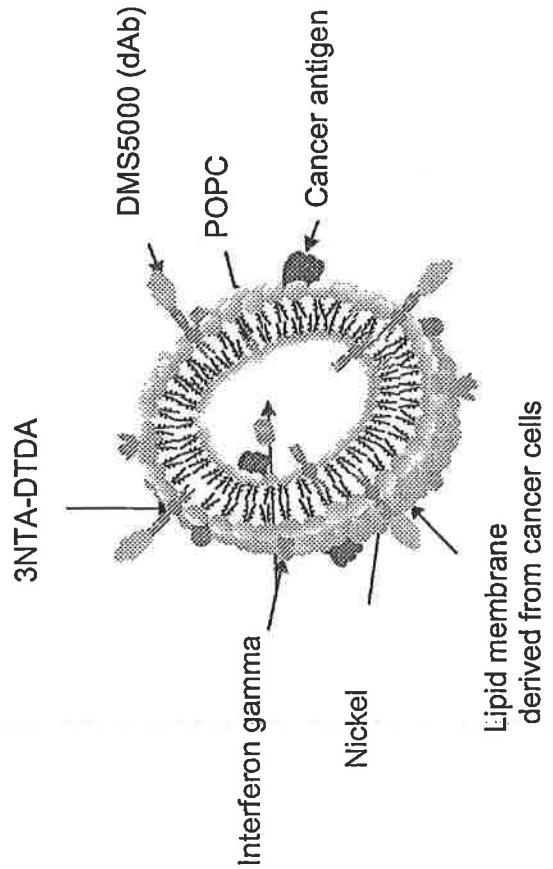

DMS5000 (dAb)
POPC
Cancer antigen
3NTA-DTDA
Interferon gamma
Nickel
Lipid membrane
derived from cancer cells

FIGURE 1

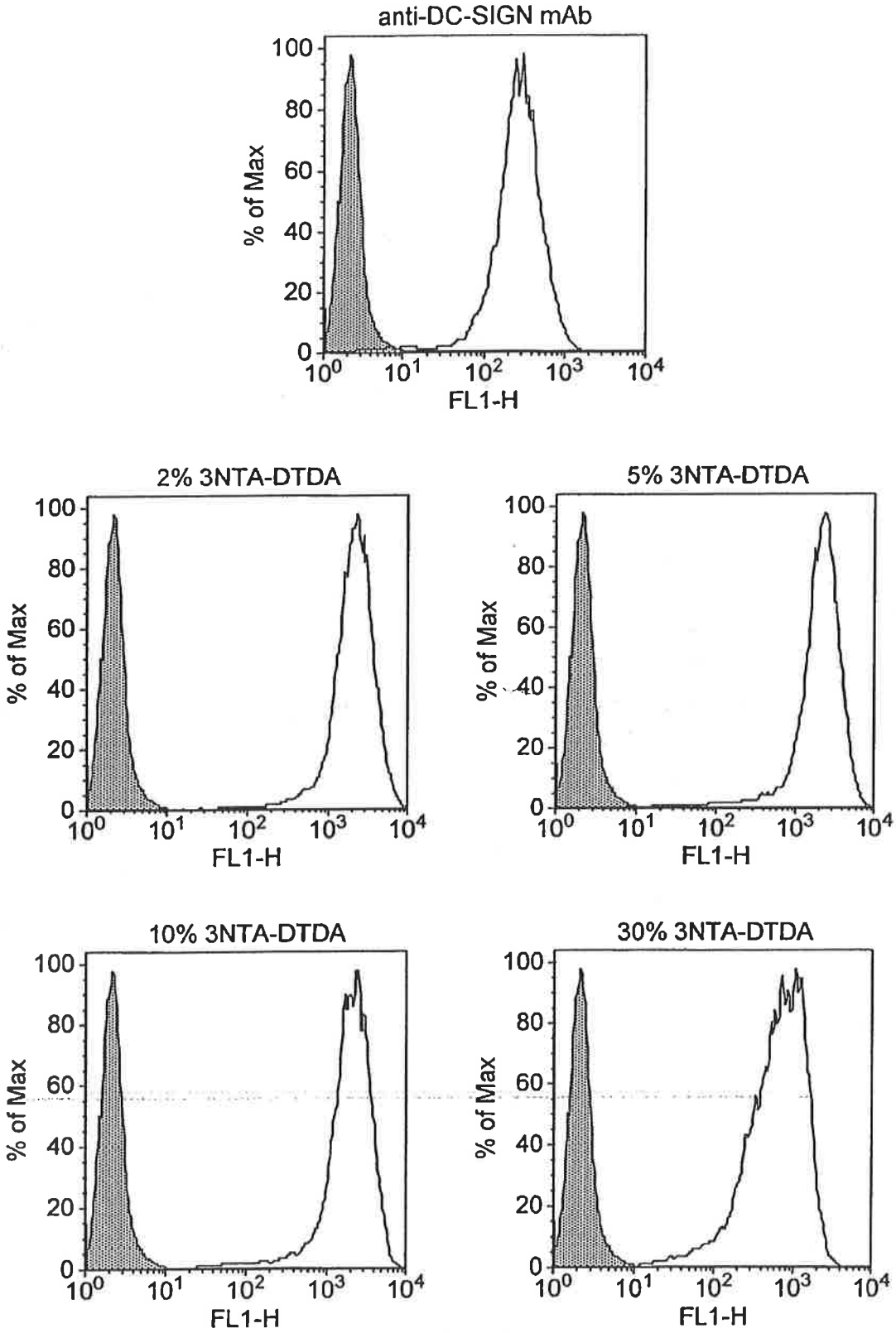

anti-DC-SIGN mAb
2% 3NTA-DTDA
5% 3NTA-DTDA
10% 3NTA-DTDA
30% 3NTA-DTDA
% of Max
FL1-H
0
20
40
60
80
100
10^0
10^1
10^2
10^3
10^4

FIG. 2

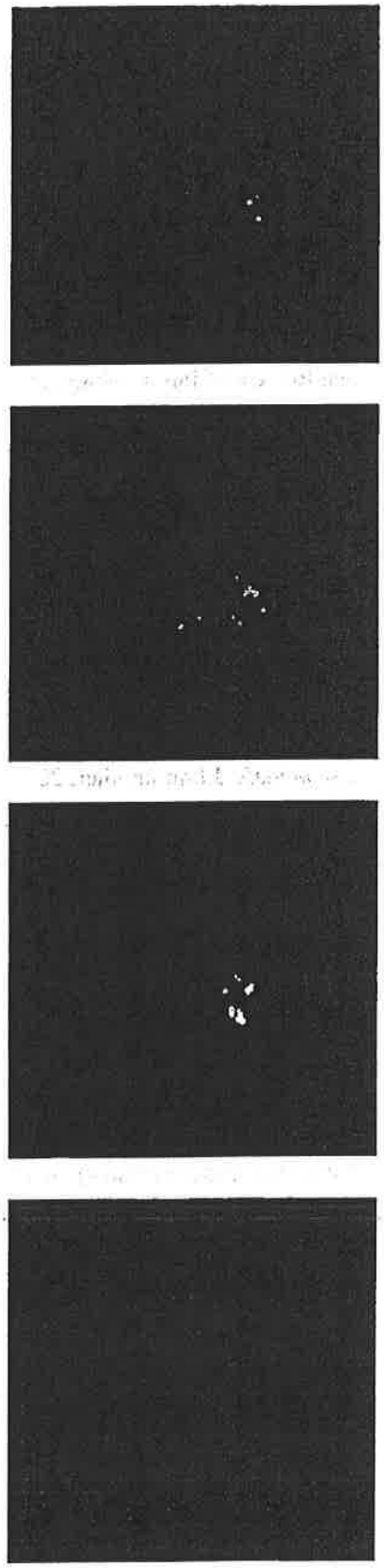


FIG. 3

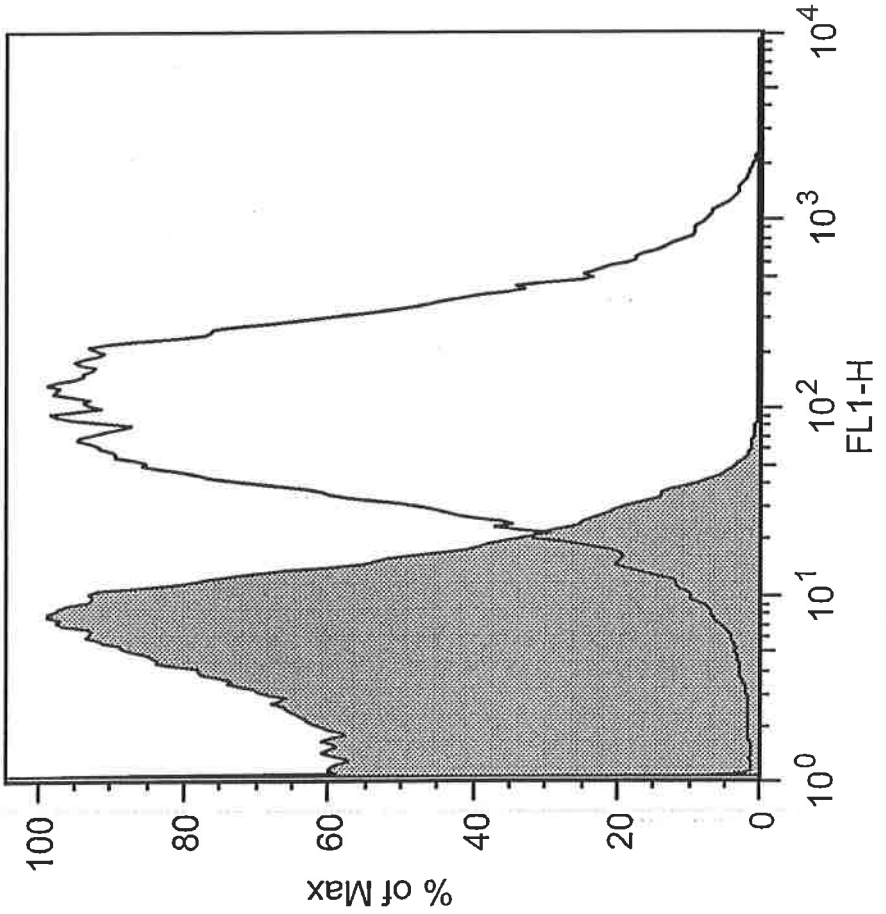


FIGURE 4

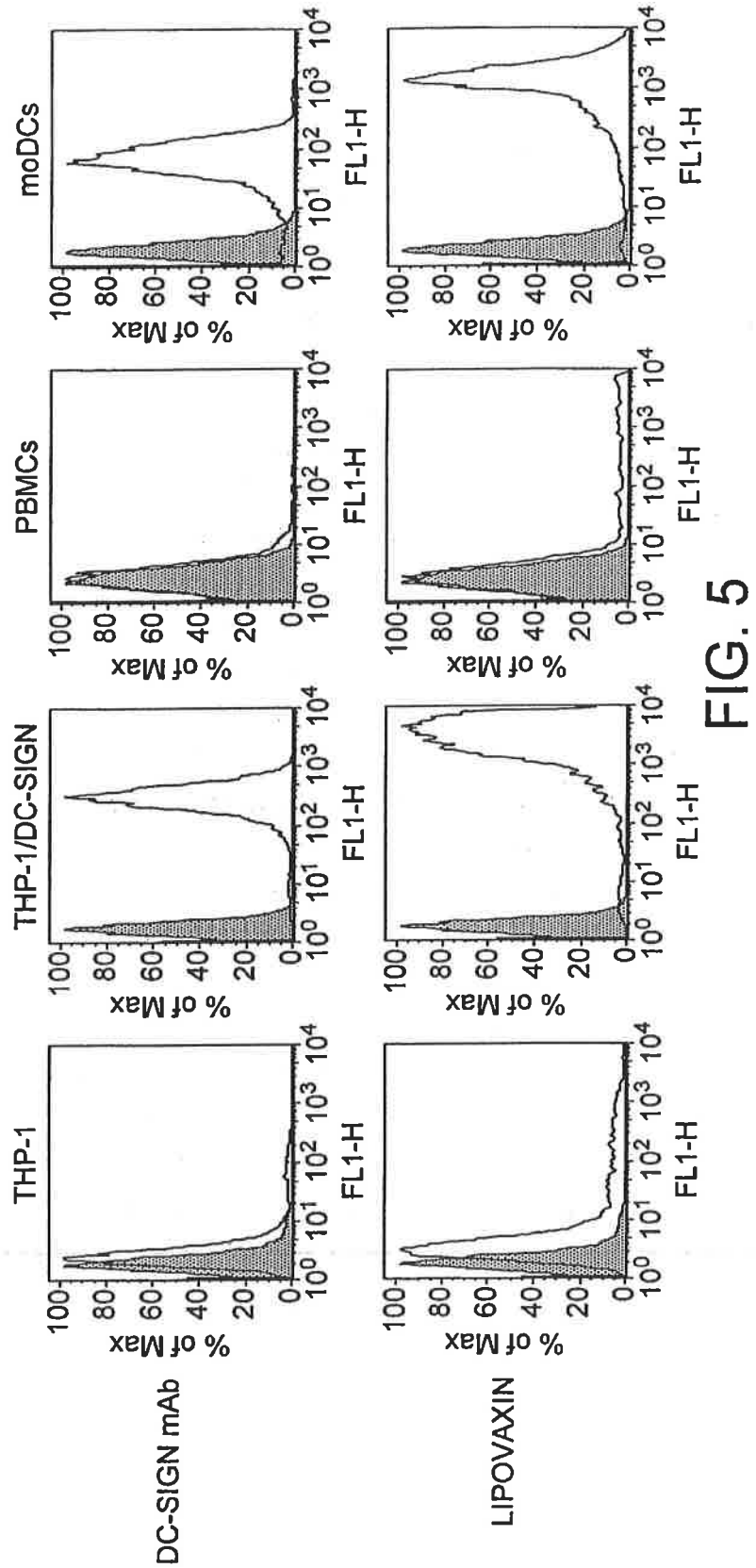

THP-1
THP-1/DC-SIGN
PBMCs
moDCs
DC-SIGN mAb
LIPOVAXIN
% of Max
FL1-H

FIG. 5

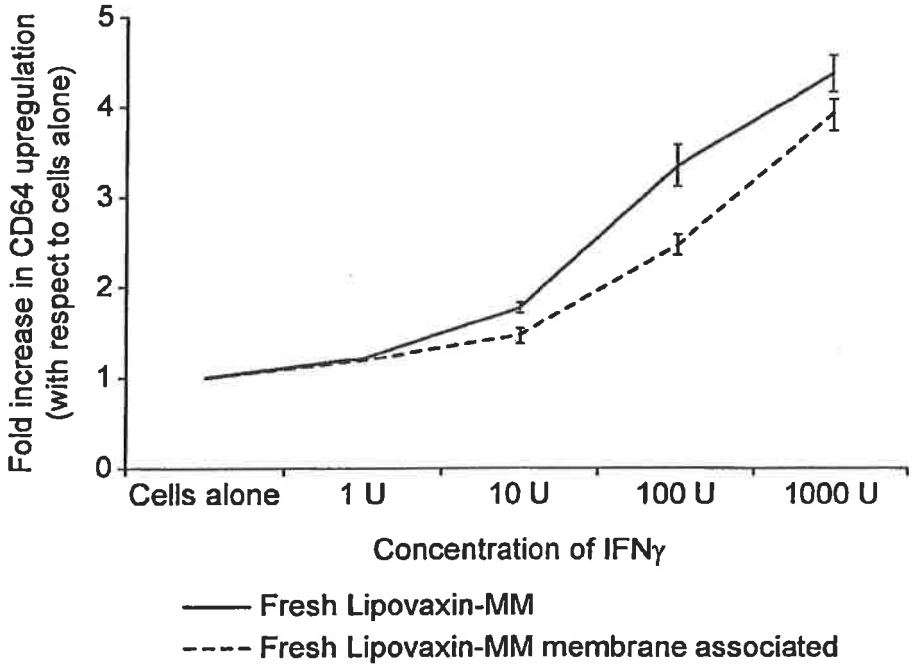

Fold increase in CD64 upregulation (with respect to cells alone)
5
4
3
2
1
0
Cells alone
1 U
10 U
100 U
1000 U
Concentration of IFNγ
Fresh Lipovaxin-MM
Fresh Lipovaxin-MM membrane associated

FIG. 6

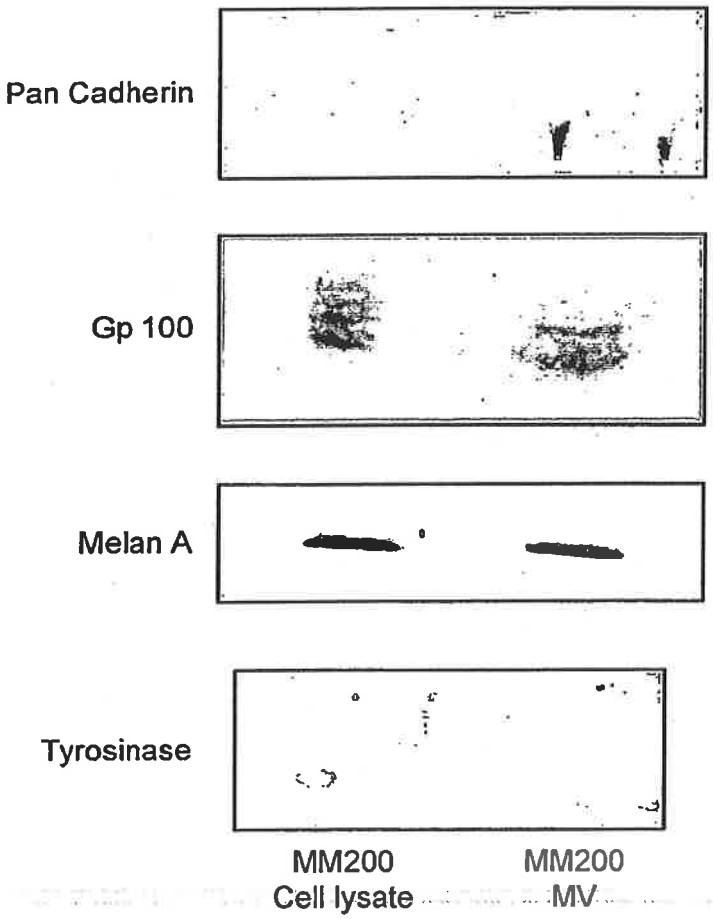

Pan Cadherin
Gp 100
Melan A
Tyrosinase
MM200
Cell lysate
MM200
MV

FIG. 7

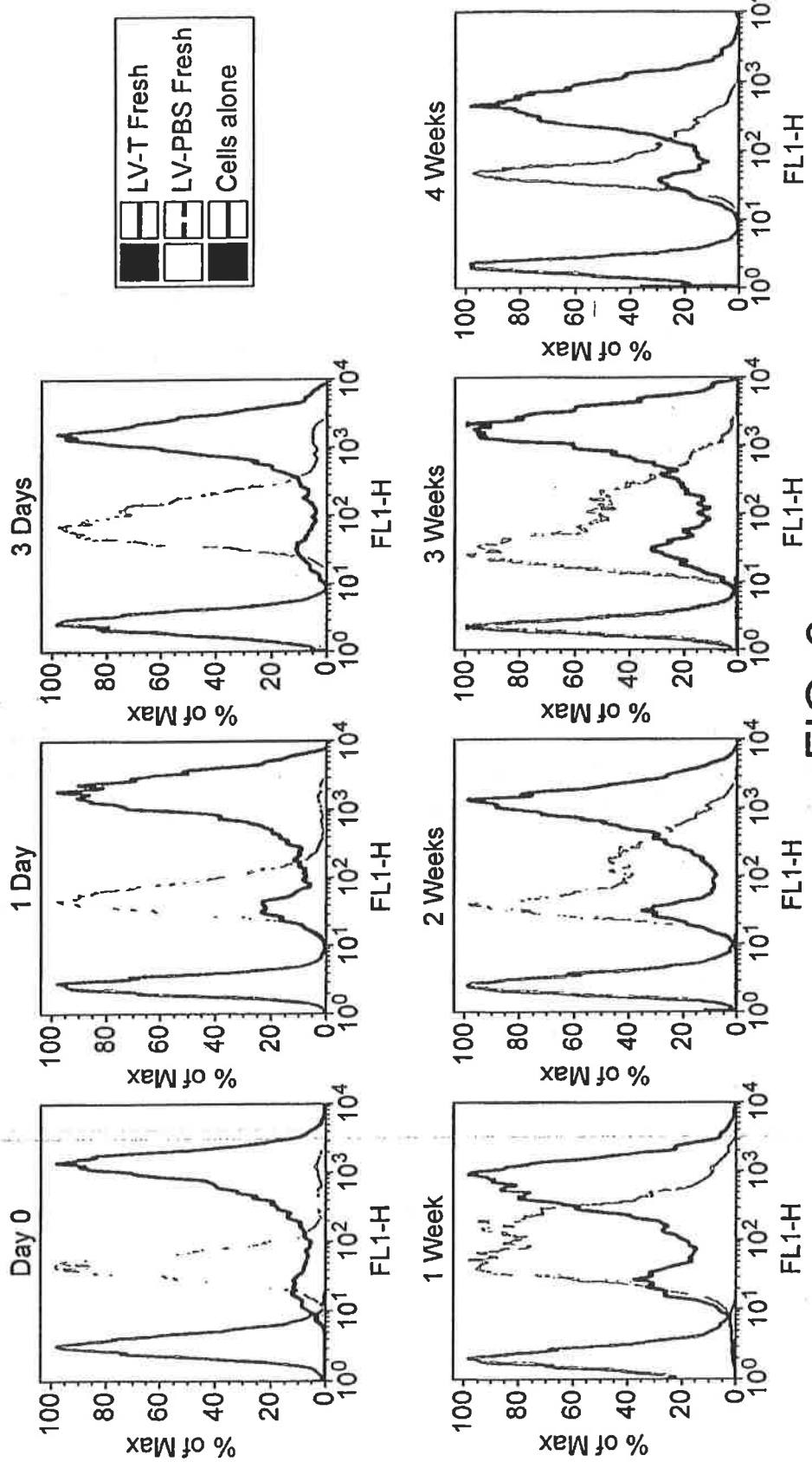
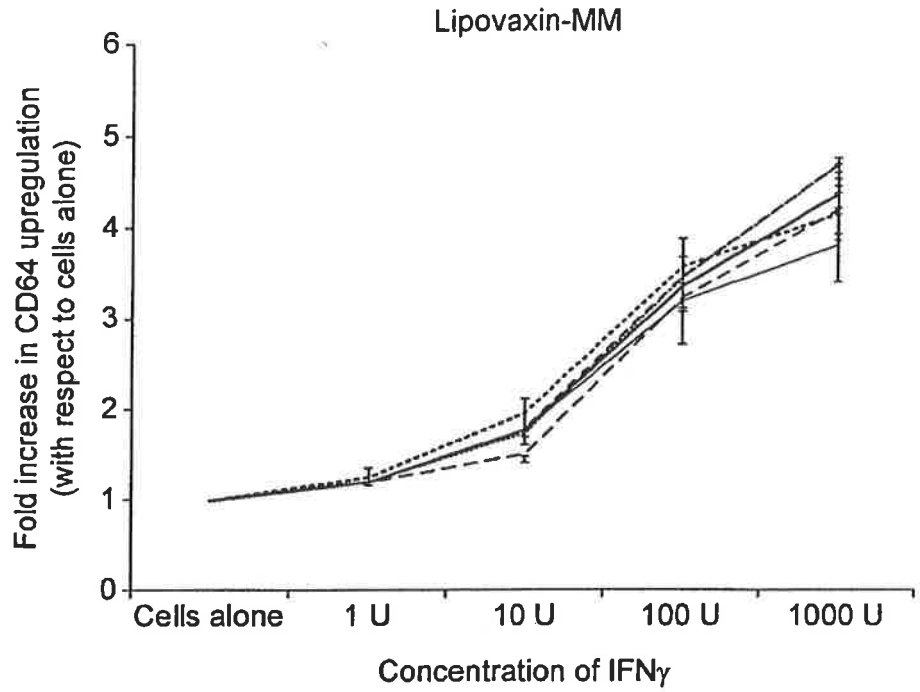

LV-T Fresh
LV-PBS Fresh
Cells alone
Day 0
1 Day
3 Days
1 Week
2 Weeks
3 Weeks
4 Weeks
% of Max
FL1-H

FIG. 8


Lipovaxin-MM
Fold increase in CD64 upregulation (with respect to cells alone)
0
1
2
3
4
5
6
Cells alone
1 U
10 U
100 U
1000 U
Concentration of IFNγ

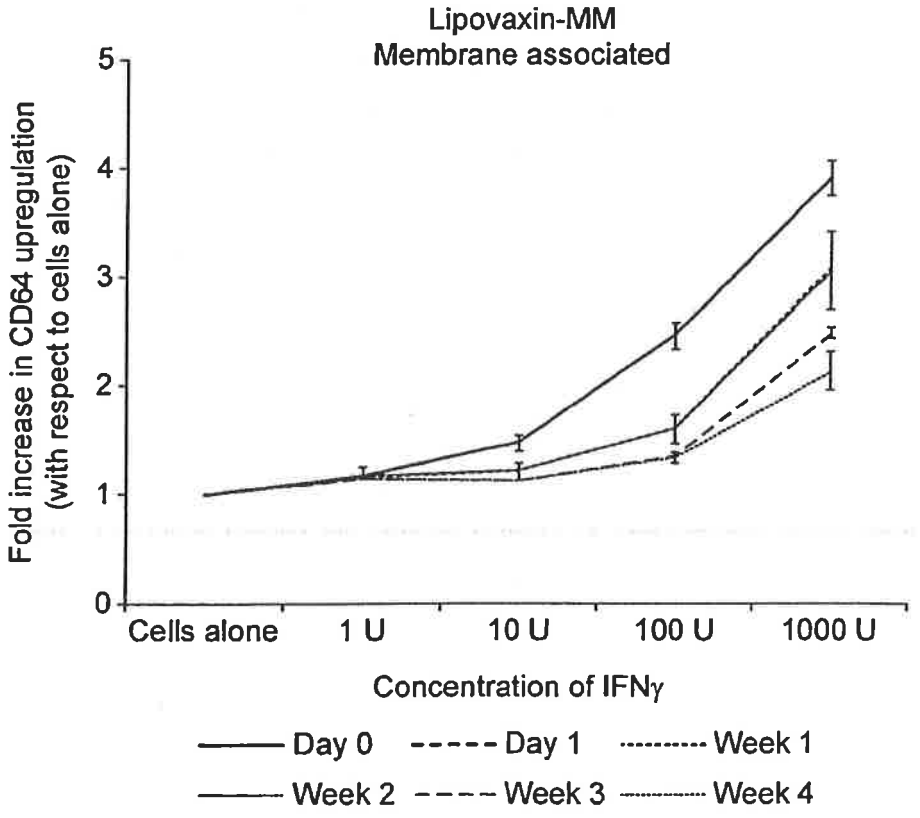

Lipovaxin-MM
Membrane associated
Fold increase in CD64 upregulation (with respect to cells alone)
0
1
2
3
4
5
Cells alone
1 U
10 U
100 U
1000 U
Concentration of IFNγ
Day 0
Day 1
Week 1
Week 2
Week 3
Week 4

FIG. 9

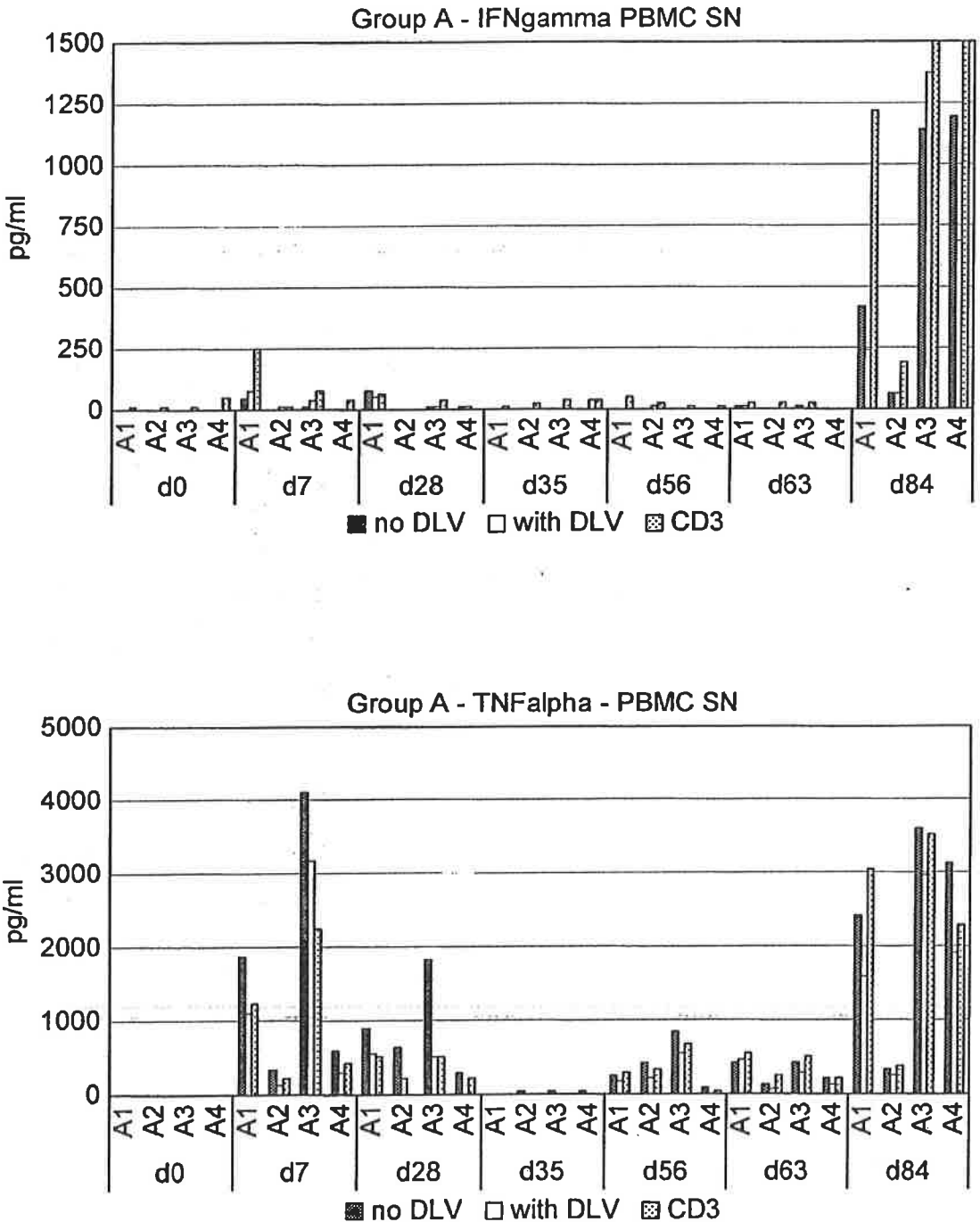

Group A - IFNgamma PBMC SN
1500
1250
1000
750
500
250
0
pg/ml
A1 A2 A3 A4
d0
d7
d28
d35
d56
d63
d84
no DLV
with DLV
CD3
Group A - TNFalpha - PBMC SN
5000
4000
3000
2000
1000
0
pg/ml
A1 A2 A3 A4
d0
d7
d28
d35
d56
d63
d84
no DLV
with DLV
CD3

FIG. 10

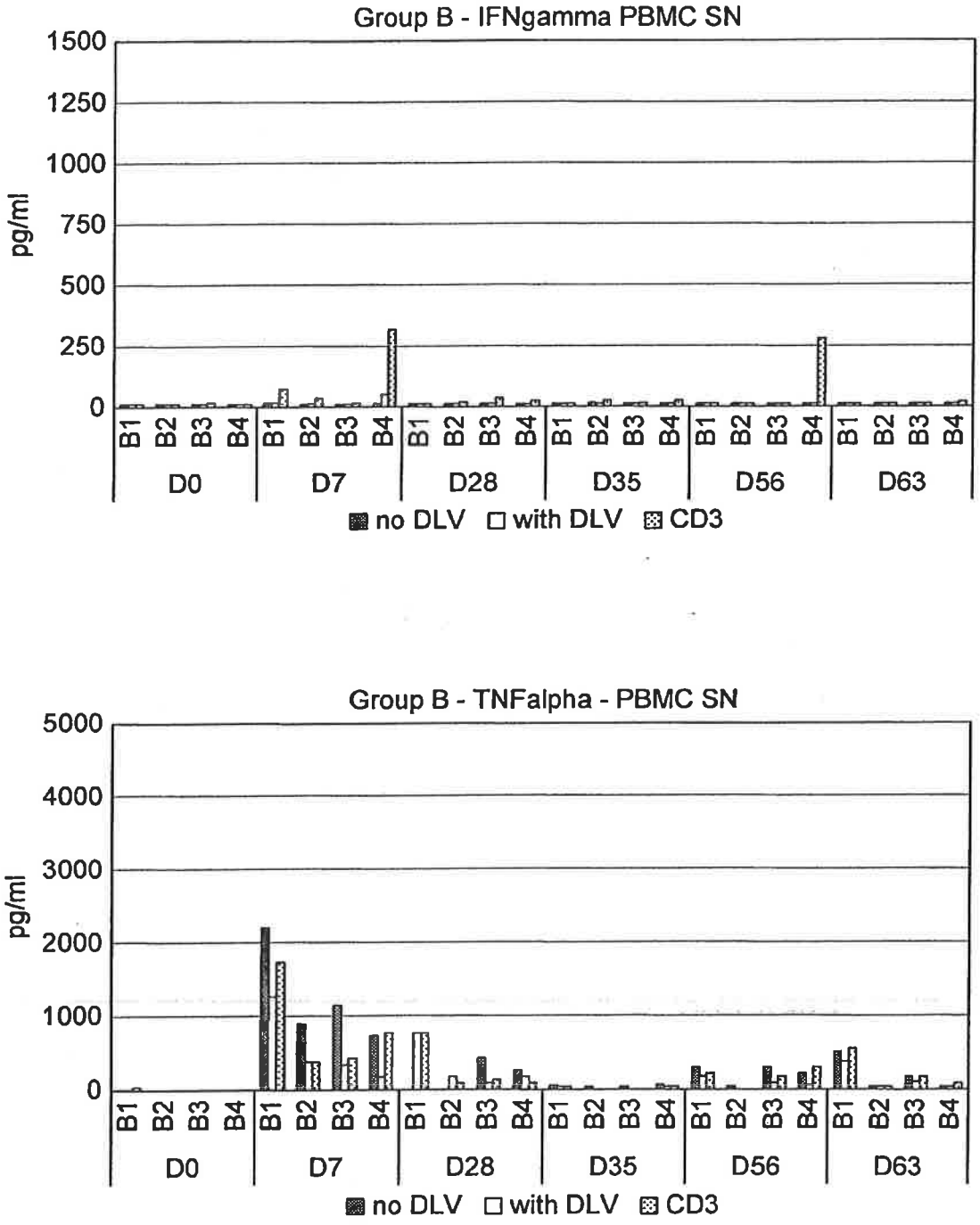

Group B - IFNgamma PBMC SN
1500
1250
1000
750
500
250
0
pg/ml
B1 B2 B3 B4 B1 B2 B3 B4 B1 B2 B3 B4 B1 B2 B3 B4 B1 B2 B3 B4 B1 B2 B3 B4
D0 D7 D28 D35 D56 D63
no DLV with DLV CD3
Group B - TNFalpha - PBMC SN
5000
4000
3000
2000
1000
0
pg/ml
B1 B2 B3 B4 B1 B2 B3 B4 B1 B2 B3 B4 B1 B2 B3 B4 B1 B2 B3 B4 B1 B2 B3 B4
D0 D7 D28 D35 D56 D63
no DLV with DLV CD3

FIG. 10 CONT'D

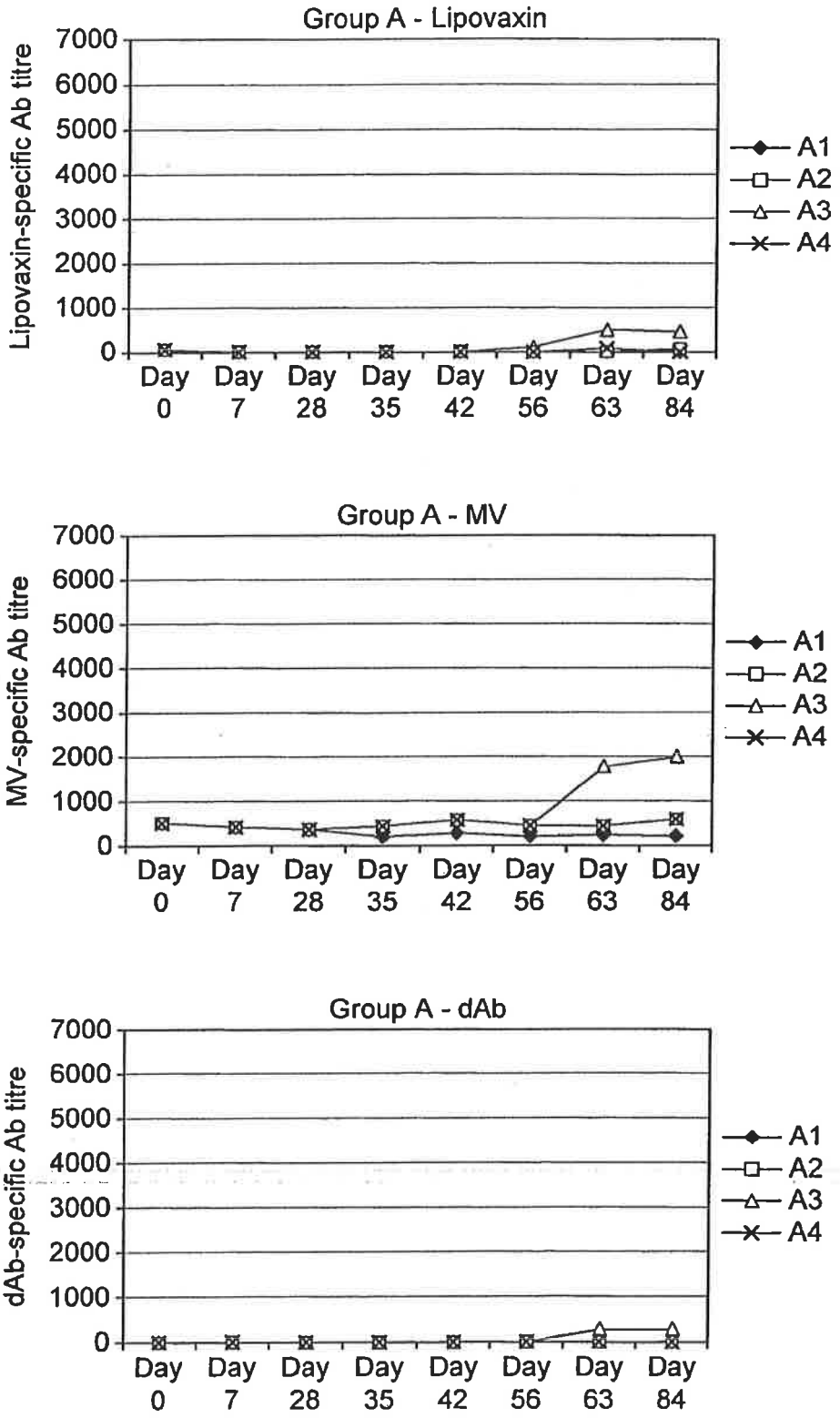

Group A - Lipovaxin
Lipovaxin-specific Ab titre
7000
6000
5000
4000
3000
2000
1000
0
Day 0
Day 7
Day 28
Day 35
Day 42
Day 56
Day 63
Day 84
A1
A2
A3
A4
Group A - MV
MV-specific Ab titre
7000
6000
5000
4000
3000
2000
1000
0
Day 0
Day 7
Day 28
Day 35
Day 42
Day 56
Day 63
Day 84
A1
A2
A3
A4
Group A - dAb
dAb-specific Ab titre
7000
6000
5000
4000
3000
2000
1000
0
Day 0
Day 7
Day 28
Day 35
Day 42
Day 56
Day 63
Day 84
A1
A2
A3
A4

FIG. 11

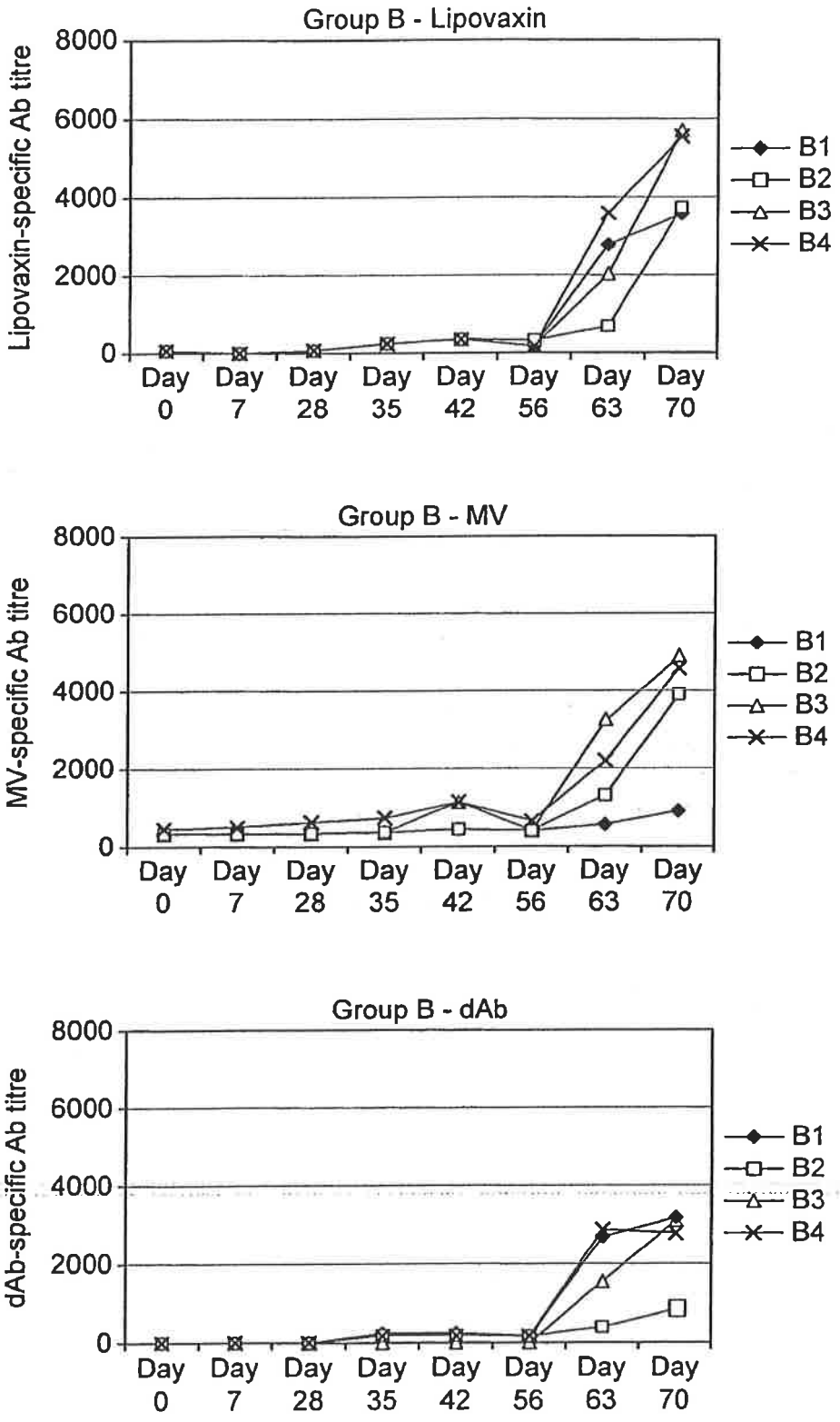

Group B - Lipovaxin
Lipovaxin-specific Ab titre
8000
6000
4000
2000
0
Day 0
Day 7
Day 28
Day 35
Day 42
Day 56
Day 63
Day 70
B1
B2
B3
B4
Group B - MV
MV-specific Ab titre
8000
6000
4000
2000
0
Day 0
Day 7
Day 28
Day 35
Day 42
Day 56
Day 63
Day 70
B1
B2
B3
B4
Group B - dAb
dAb-specific Ab titre
8000
6000
4000
2000
0
Day 0
Day 7
Day 28
Day 35
Day 42
Day 56
Day 63
Day 70
B1
B2
B3
B4

FIG. 11 CONT'D

FIGURE 12

DMS5000 sequence

without the His-tag:

STEVQLLESGGGLVQPGGSLRLSCAASGFTFDRRAMGWVRQAPGKGLEWVSSIESDGTRTYYADSVKGRFTISRDNSKNTL
YLQMNSLRAEDTAVYYCAKHPGSSYVFDYWGQGTLVTVSS (SEQ ID NO: 1)

with the His-Tag (underlined):

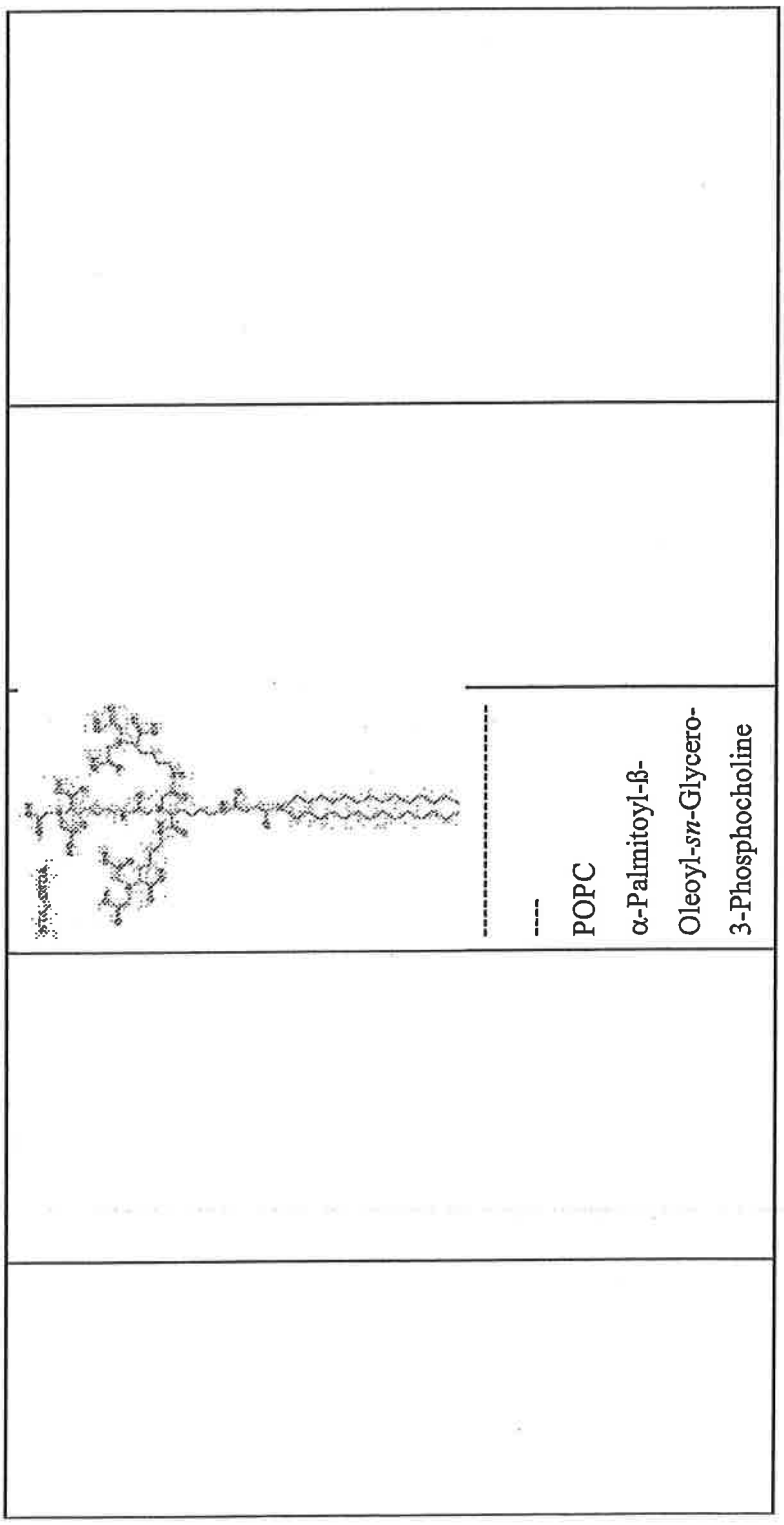
STEVQLLESGGGLVQPGGSLRLSCAASGFTFDRRAMGWVRQAPGKGLEWVSSIESDGTRTYYADSVKGRFTISRDNSKNTL
YLQMNSLRAEDTAVYYCAKHPGSSYVFDYWGQGTLVTVSSGHHGHHGHHGHHGHH (SEQ ID NO: 2)

DMS5000 without ST:

EVQLLESGGGLVQPGGSLRLSCAASGFTFDRRAMGWVRQAPGKGLEWVSSIESDGTRTYYADSVKGRFTISRDNSKNTLYL
QMNSLRAEDTAVYYCAKHPGSSYVFDYWGQGTLVTVSS (SEQ ID NO: 3)

TABLE 1 Composition and characteristics of the Lipovaxin-MM pre-formulation components

Pre-mix Component	**A**	**B**	**C**	**D**
Name	MM200 vesicles	Liposome	IFN-gamma	DMS5000
Trade name	N/A	N/A	IMUKIN (Boehringer Ingelheim)	N/A Recombinant protein
Composition/ description or structure if applicable	MM200 cell-membrane fraction which form multilamellar vesicles when resuspended in Phosphate Buffered Saline (PBS)	3NTA-DTDA	IFN-gamma cytokine	Anti-human DC-SIGN V-domain antibody (dAb) solubilised in Phosphate Buffered Saline (PBS)


POPC
α-Palmitoyl-ß-
Oleoyl-sn-Glycero-
3-Phosphocholine

		 --- $NiSO_4$ Nickel (II) sulphate hydrate (CAS# 15244-37-8) EINECS Number: 232-104-9 EU number: 028-009-00-5		
Molecular Formula (if	N/A	3NTA-DTDA: $C_{72}H_{127}N_9O_{23}$	N/A	N/A

applicable)		POPC : $C_{42}H_{82}NO_8P$ $NiSO_4$: $NiSO_4.6H_2O$		
Molecular Weight	N/A	3NTA-DTDA: 1486.8418 POPC : 760.10 $NiSO_4$: 154.77 (anhy)	16,465 Dalton monomers	14,386kDa
Description	Vesicles are membrane bound multilamellar structures of varying sizes that form spontaneously when the membrane fraction collected from MM200	The liposomes are prepared from a mixture of sterilised lipid solutions formulated in PBS supplemented with nickel sulphate.	IMUKIN is a highly purified sterile solution consisting of non-covalent dimers of two identical 16,465 Dalton monomers, with a	

	cells that have been disrupted by sonication is resuspended in an aqueous solution. Production is conducted under aseptic conditions.	The sterile mixture is lyophilised and stored under vacuum at -20°C.	specific activity of 20 million IU/mg. Excipients include mannitol, sodium succinate, succinic acid, polysorbate 20 and water for injection	
Solubility	Suspension	Suspension	Soluble in PBS	Soluble in PBS