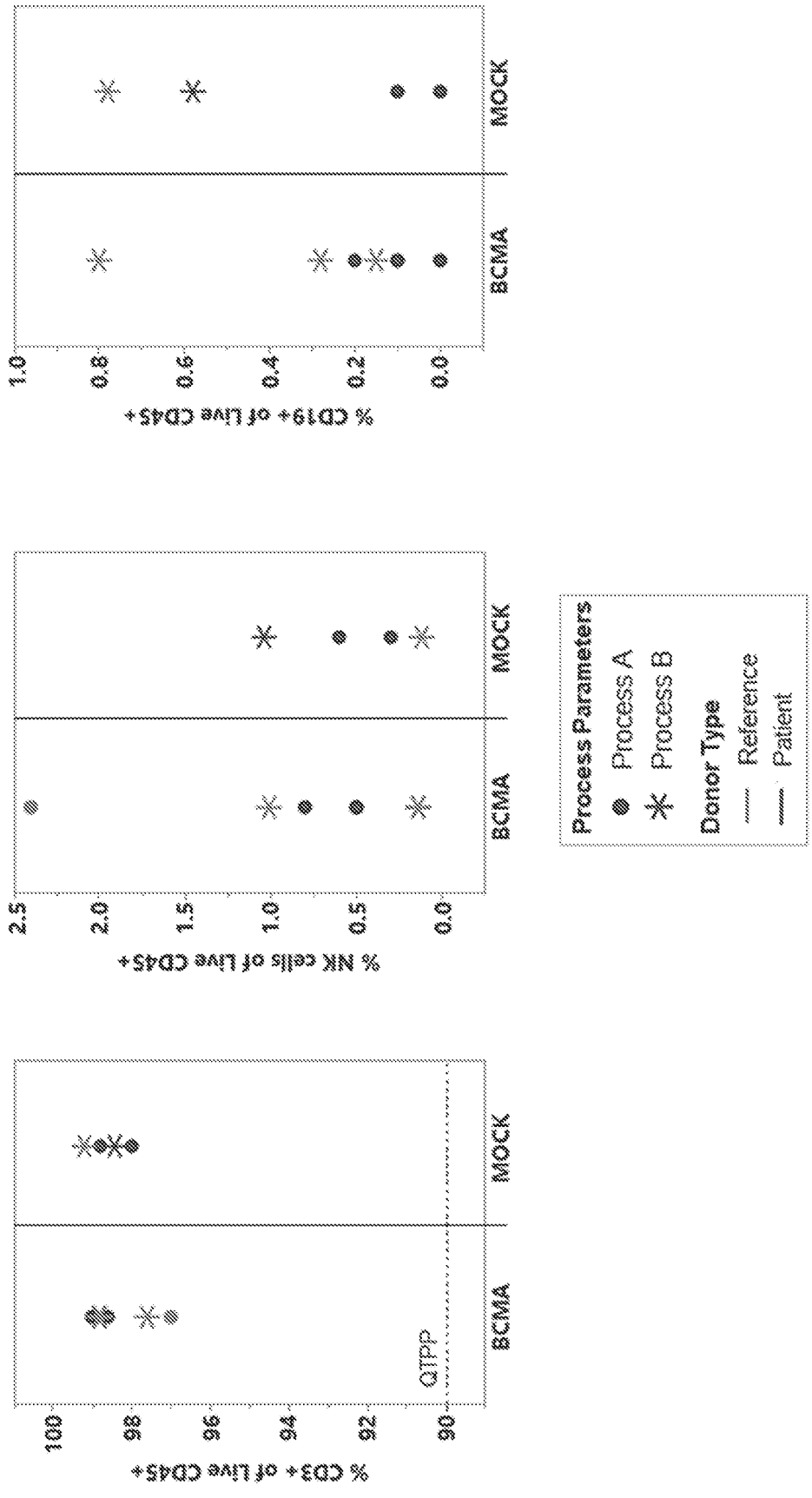

% CD3+ of Live CD45+
100
98
96
94
92
90
QTPP
BCMA
MOCK
% NK cells of Live CD45+
2.5
2.0
1.5
1.0
0.5
0.0
BCMA
MOCK
% CD19+ of Live CD45+
1.0
0.8
0.6
0.4
0.2
0.0
BCMA
MOCK
Process Parameters
Process A
Process B
Donor Type
Reference
Patient

FIG. 1

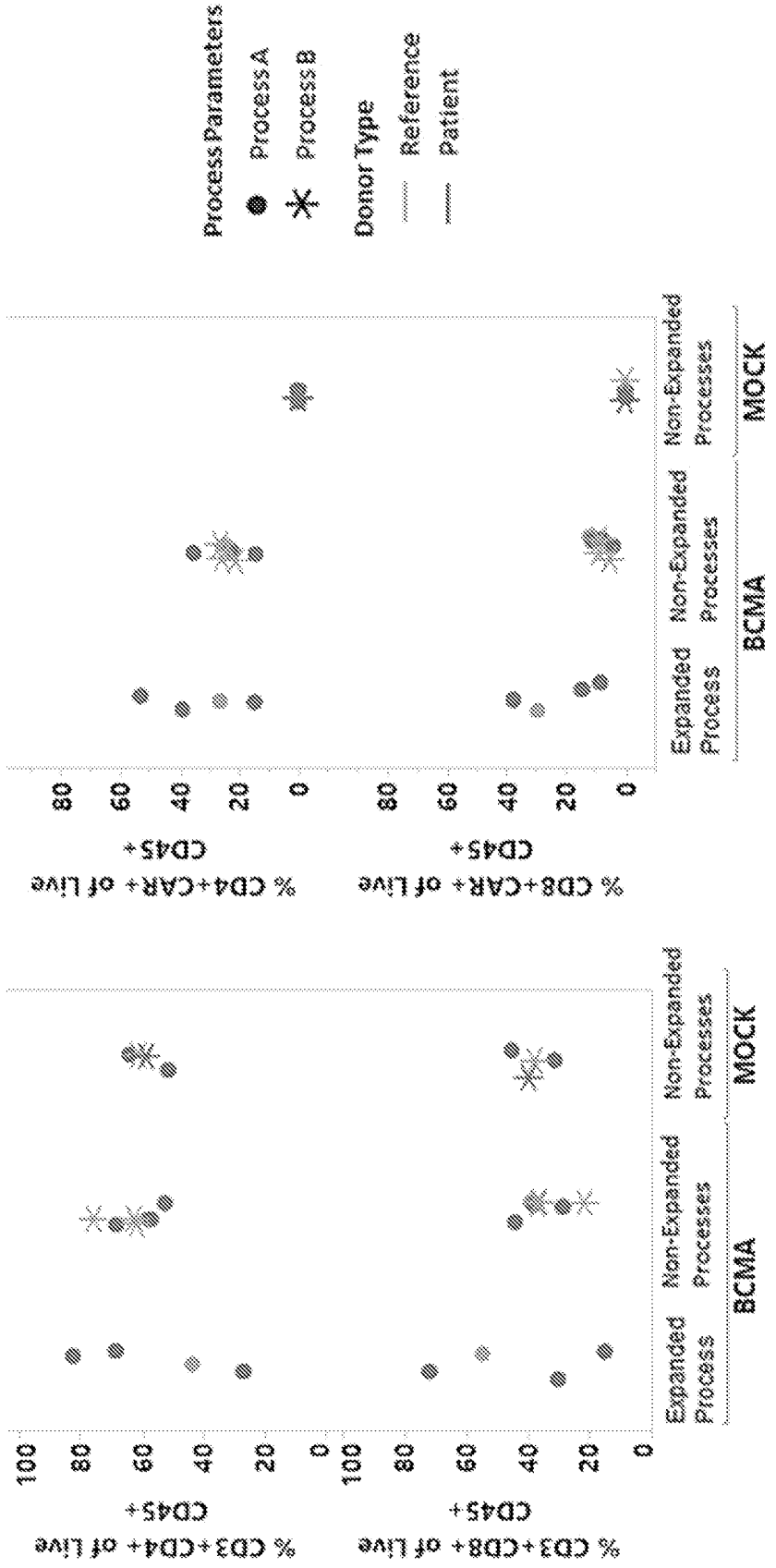

Process Parameters
Process A
Process B
Donor Type
Reference
Patient
% CD3+CD8+ of Live CD45+
% CD3+CD4+ of Live CD45+
% CD8+CAR+ of Live CD45+
% CD4+CAR+ of Live CD45+
0
20
40
60
80
100
Expanded Process
Non-Expanded Processes
BCMA
MOCK

FIG. 2

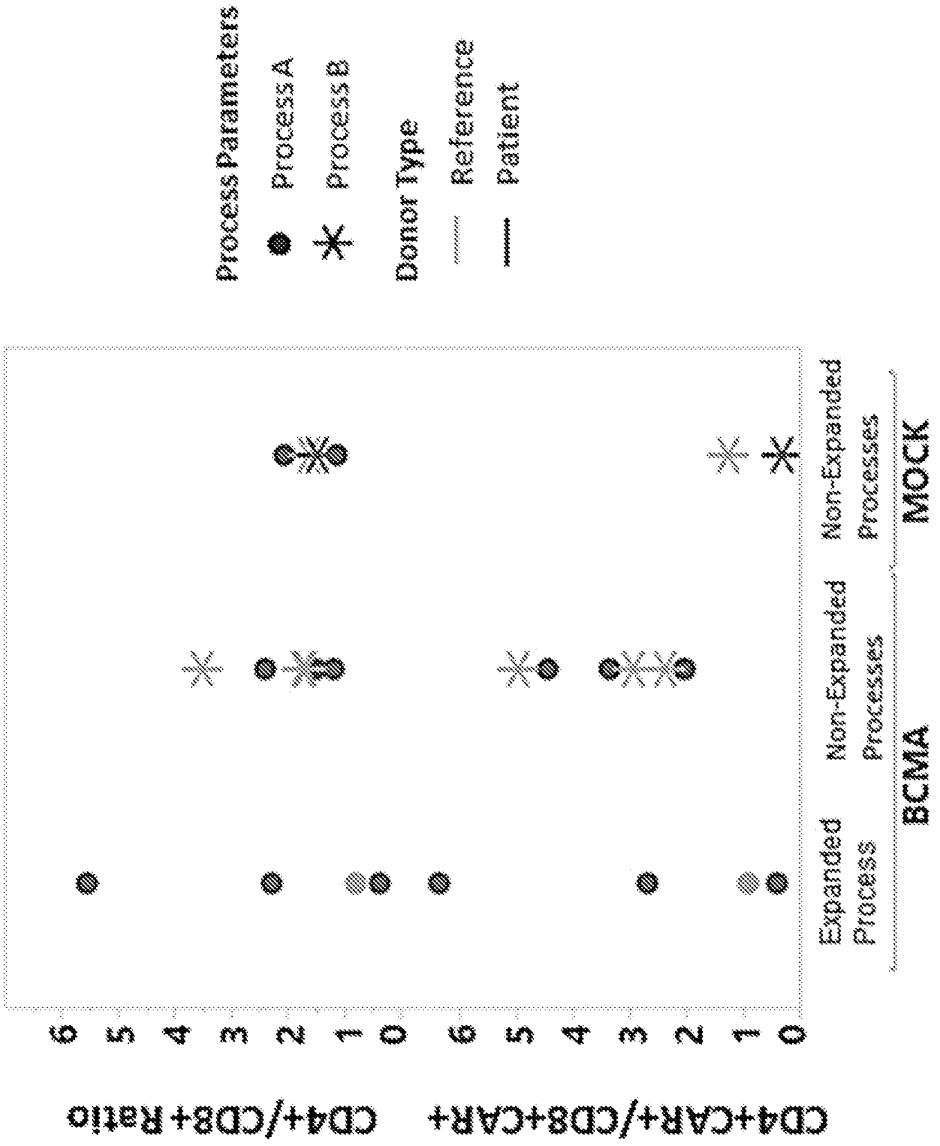

Process Parameters
Process A
Process B
Donor Type
Reference
Patient
CD4+CAR+/CD8+CAR+ CD4+/CD8+Ratio
0
1
2
3
4
5
6
Expanded Process
Non-Expanded Processes
BCMA
Non-Expanded Processes
MOCK

FIG. 3

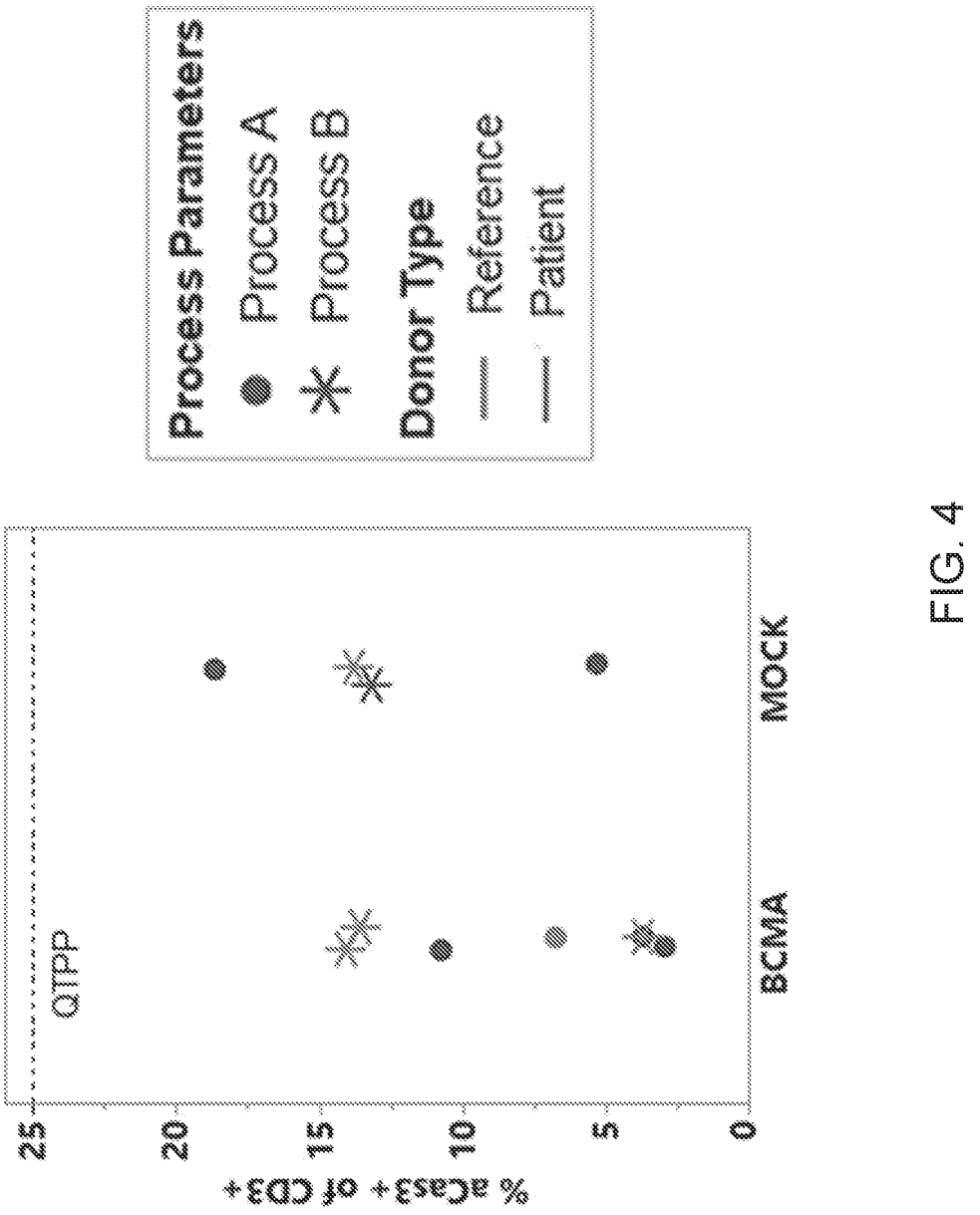

Process Parameters
Process A
Process B
Donor Type
Reference
Patient
% aCas3+ of CD3+
0
5
10
15
20
25
QTPP
BCMA
MOCK

FIG. 4

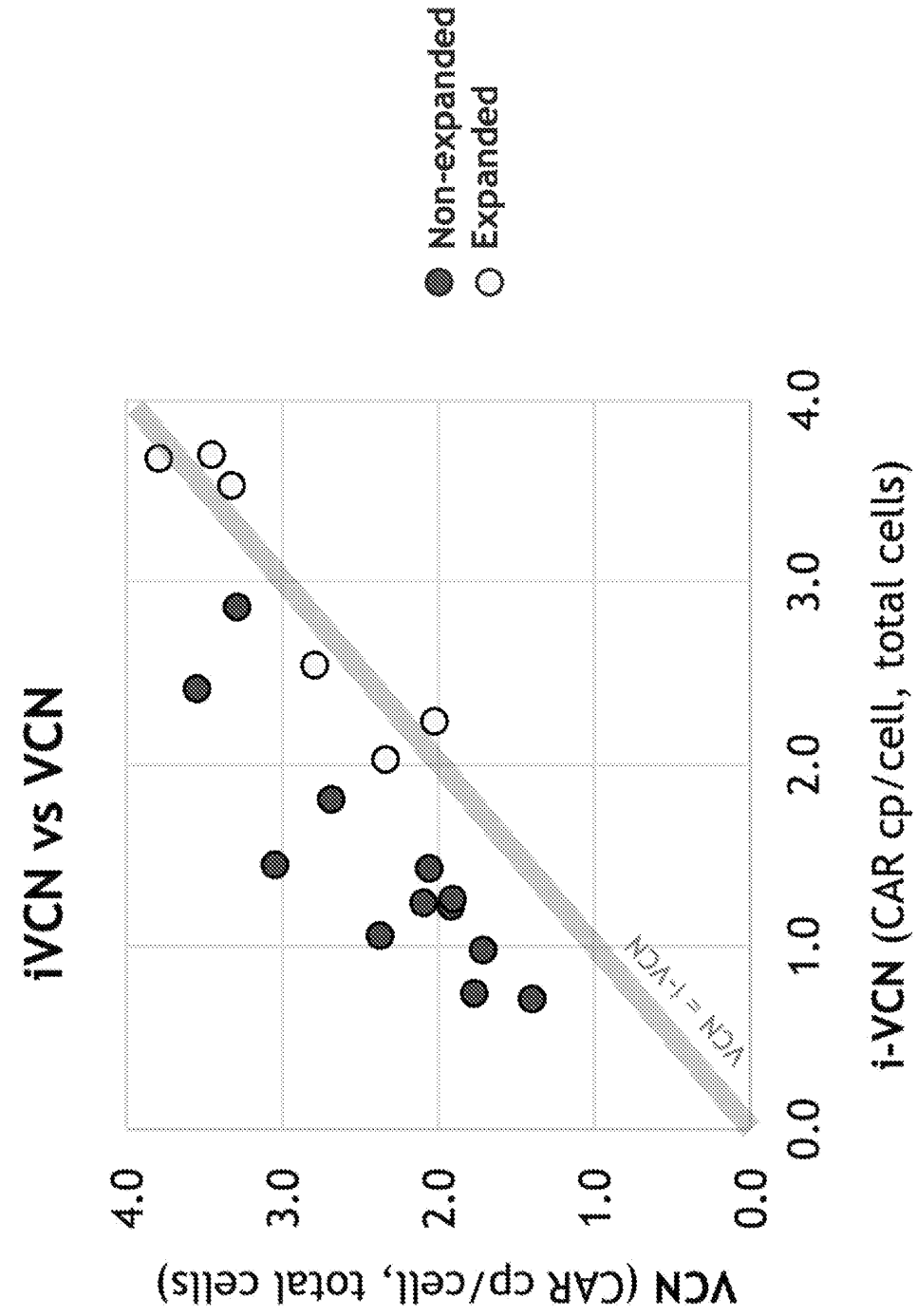

iVCN vs VCN
Non-expanded
Expanded
VCN = iVCN
VCN (CAR cp/cell, total cells)
i-VCN (CAR cp/cell, total cells)
0.0
1.0
2.0
3.0
4.0

FIG. 5A

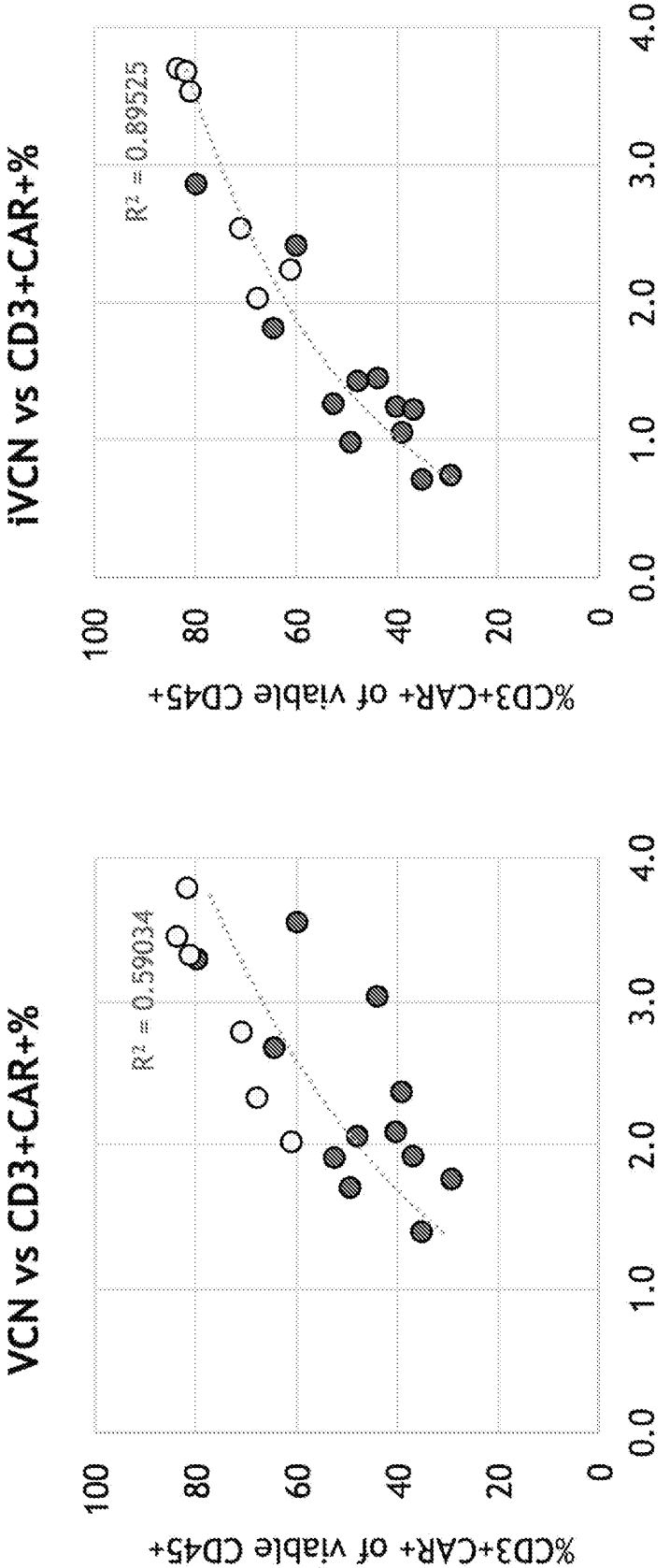

VCN vs CD3+CAR+%
R² = 0.59034
%CD3+CAR+ of viable CD45+
VCN (CAR cp/cell, total cells)
0
20
40
60
80
100
0.0
1.0
2.0
3.0
4.0

FIG. 5B

iVCN vs CD3+CAR+%
R² = 0.89525
%CD3+CAR+ of viable CD45+
i-VCN (CAR cp/cell, total cells)
Non-expanded
Expanded
0
20
40
60
80
100
0.0
1.0
2.0
3.0
4.0

FIG. 5C

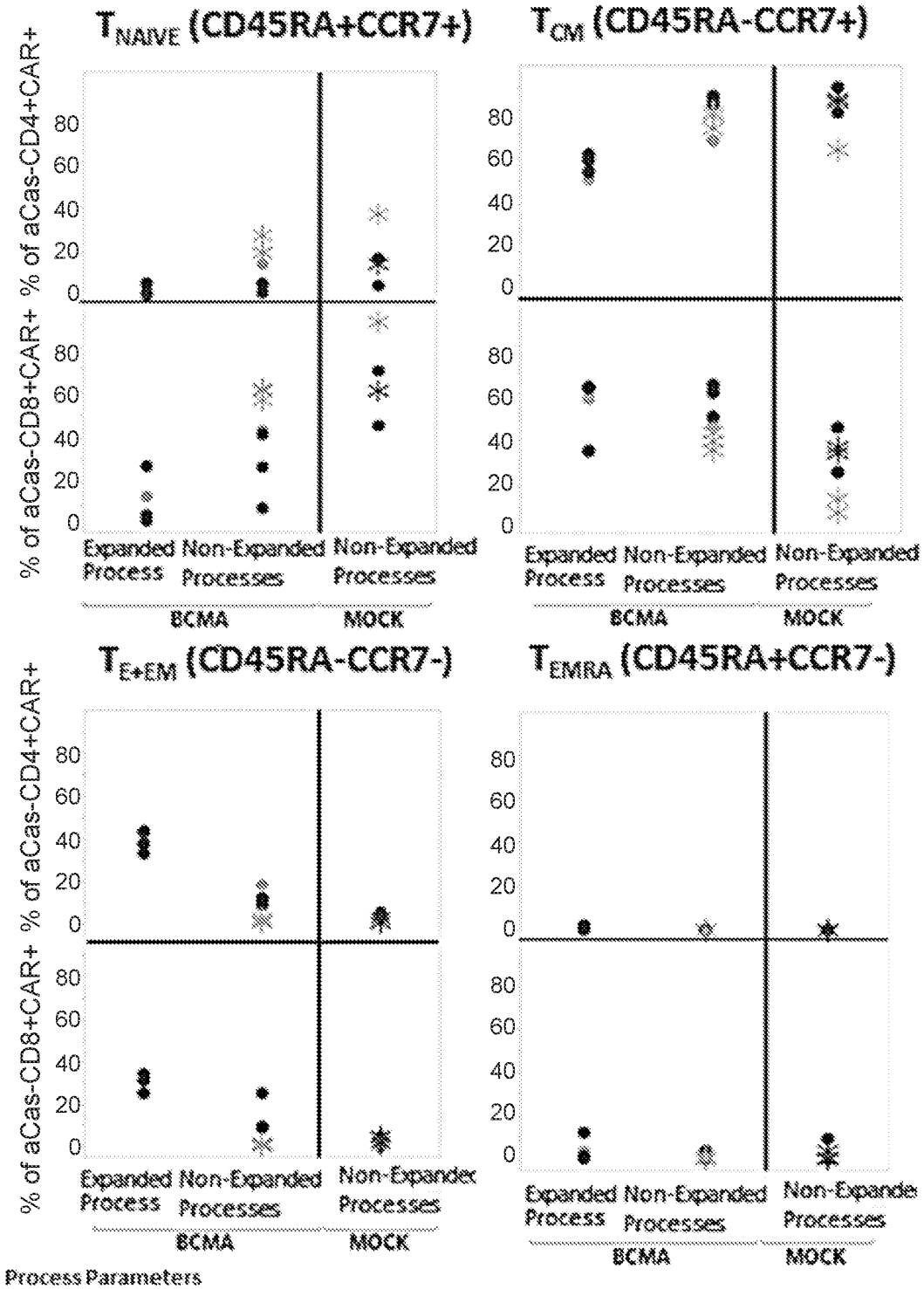

T_{NAIVE} (CD45RA+CCR7+)
T_{CM} (CD45RA-CCR7+)
T_{E+EM} (CD45RA-CCR7-)
T_{EMRA} (CD45RA+CCR7-)
% of aCas-CD4+CAR+
% of aCas-CD8+CAR+
0
20
40
60
80
Expanded Process
Non-Expanded Processes
Non-Expanded Processes
BCMA
MOCK
Process Parameters
Process A
Process B
Donor Type
Reference
Patient

FIG. 6A

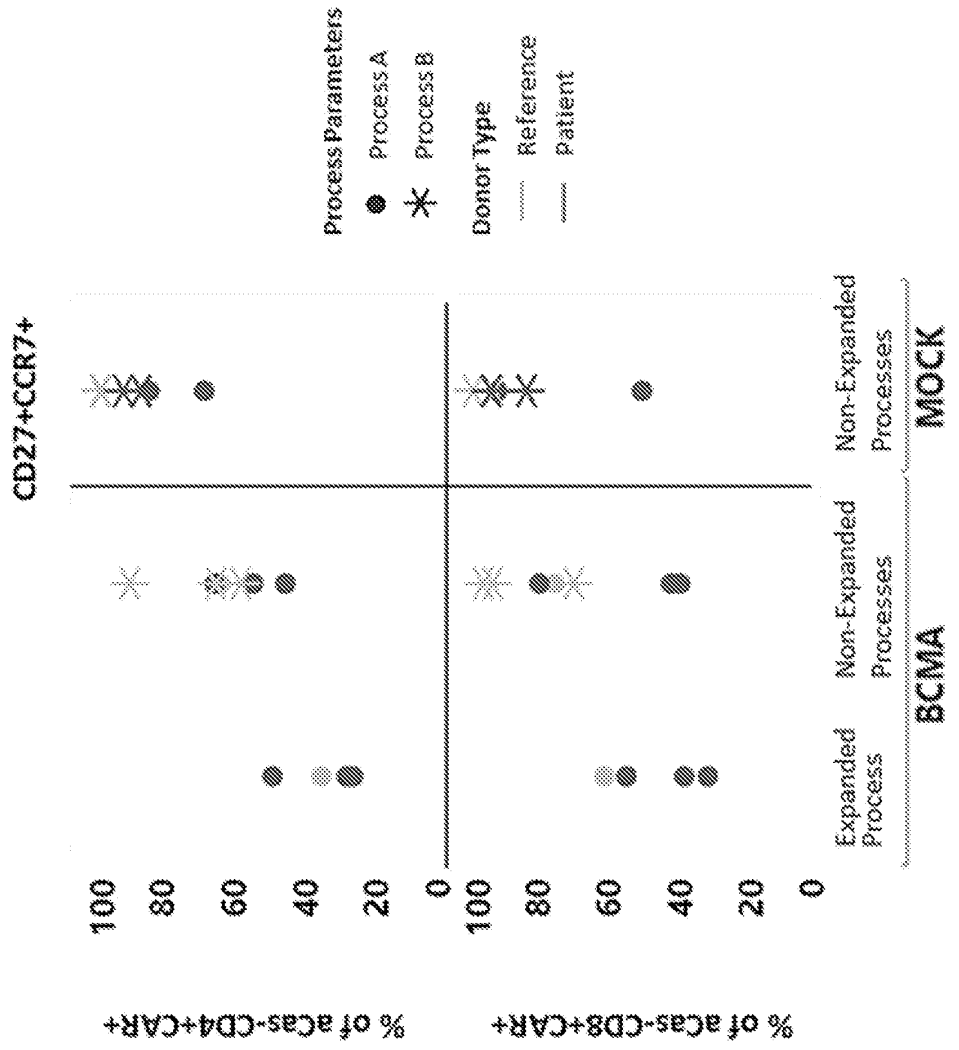

CD27+CCR7+
% of aCas-CD4+CAR+
% of aCas-CD8+CAR+
100
80
60
40
20
0
Process Parameters
Process A
Process B
Donor Type
Reference
Patient
Expanded Process
Non-Expanded Processes
BCMA
Non-Expanded Processes
MOCK

FIG. 6B

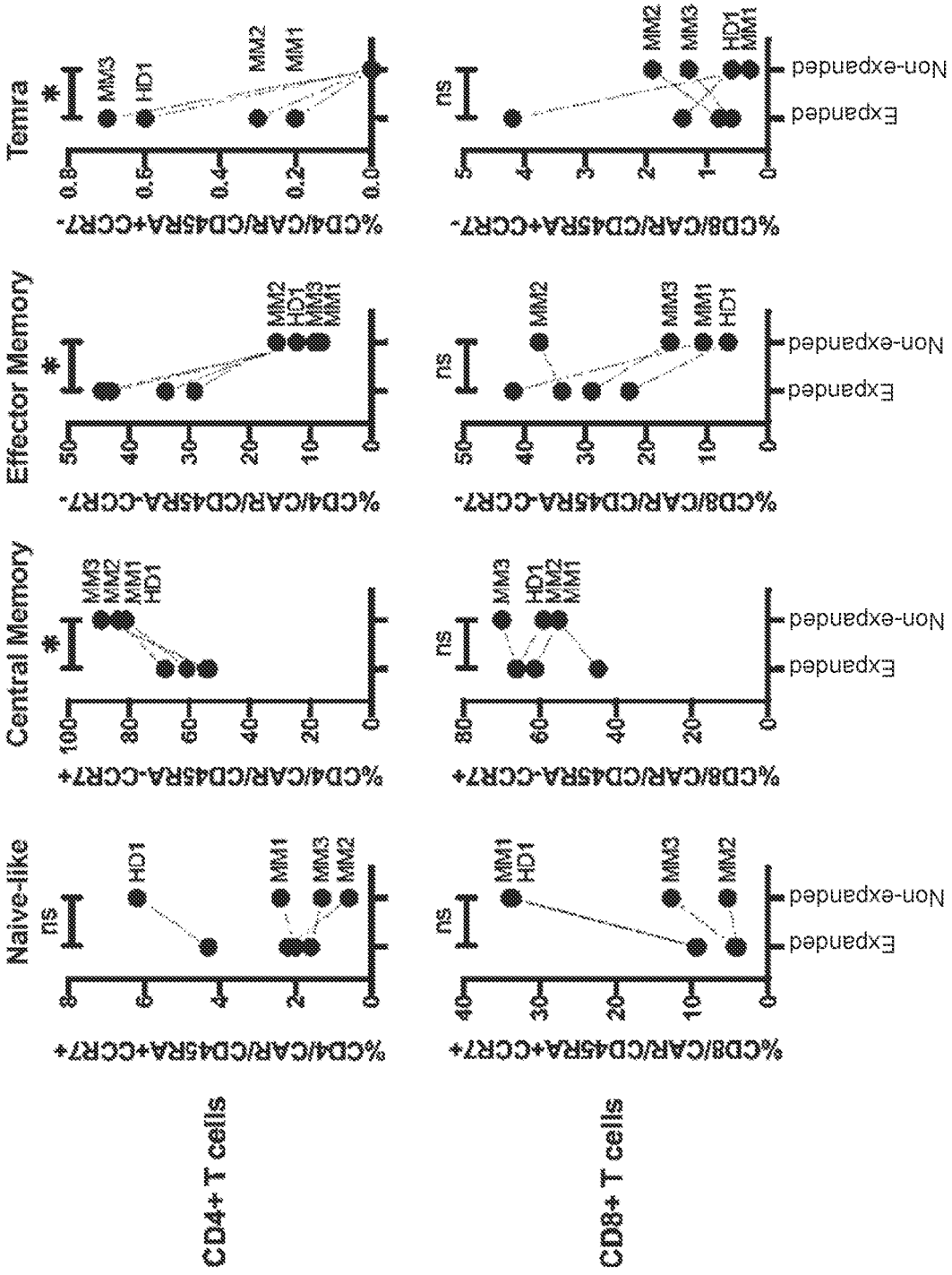

CD4+ T cells
CD8+ T cells
Naive-like
Central Memory
Effector Memory
Temra
%CD4/CAR/CD45RA+CCR7+
%CD8/CAR/CD45RA+CCR7+
%CD4/CAR/CD45RA-CCR7+
%CD8/CAR/CD45RA-CCR7+
%CD4/CAR/CD45RA-CCR7-
%CD8/CAR/CD45RA-CCR7-
%CD4/CAR/CD45RA+CCR7-
%CD8/CAR/CD45RA+CCR7-
Expanded
Non-expanded
ns
*
HD1
MM1
MM2
MM3

FIG. 7

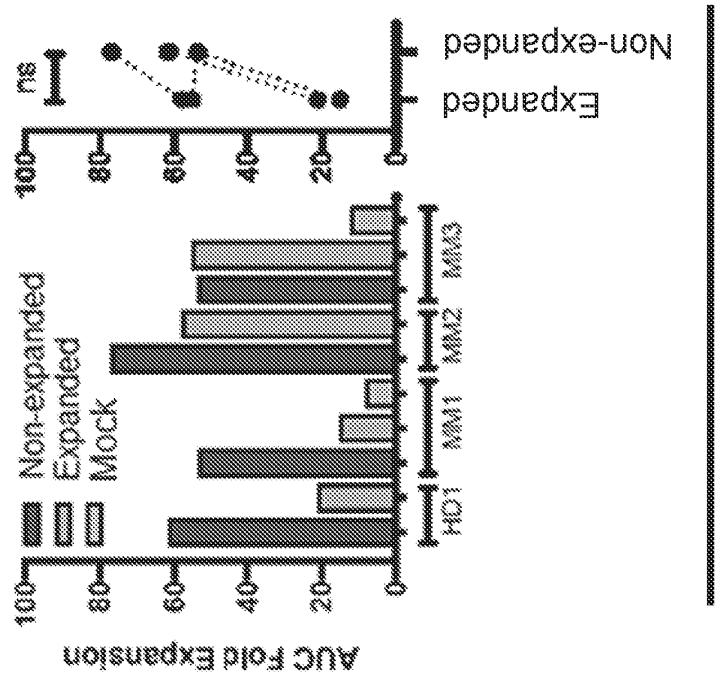

Expanded
Non-expanded
ns
100
80
60
40
20
0
Non-expanded
Expanded
Mock
HD1
MM1
MM2
MM3
AUC Fold Expansion

FIG. 8B

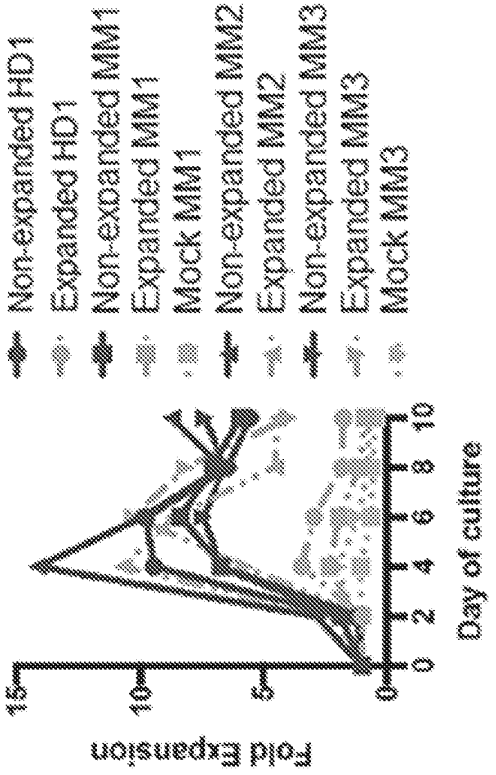

Non-expanded HD1
Expanded HD1
Non-expanded MM1
Expanded MM1
Mock MM1
Non-expanded MM2
Expanded MM2
Non-expanded MM3
Expanded MM3
Mock MM3
15
10
5
0
0 2 4 6 8 10
Day of culture
Fold Expansion

FIG. 8A

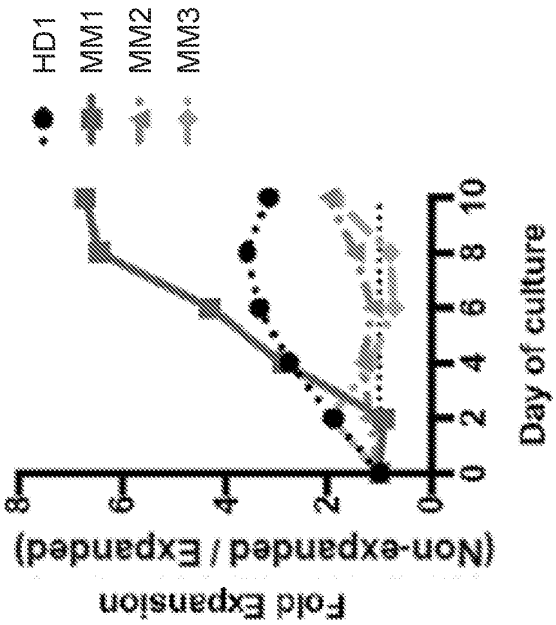

HD1
MM1
MM2
MM3
Fold Expansion
(Non-expanded / Expanded)
8
6
4
2
0
0
2
4
6
8
10
Day of culture

FIG. 8C

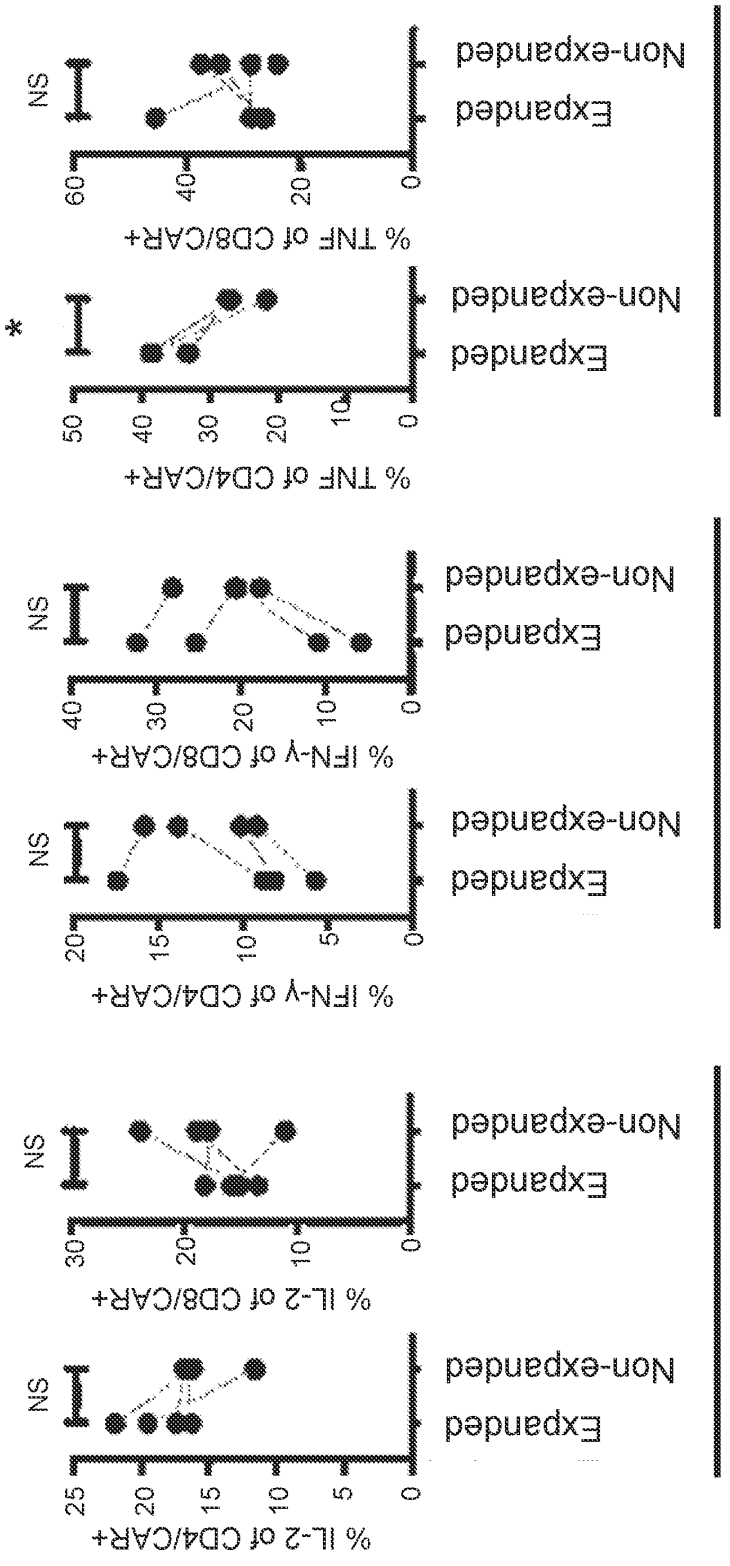


FIG. 9A

FIG. 9B

FIG. 9C

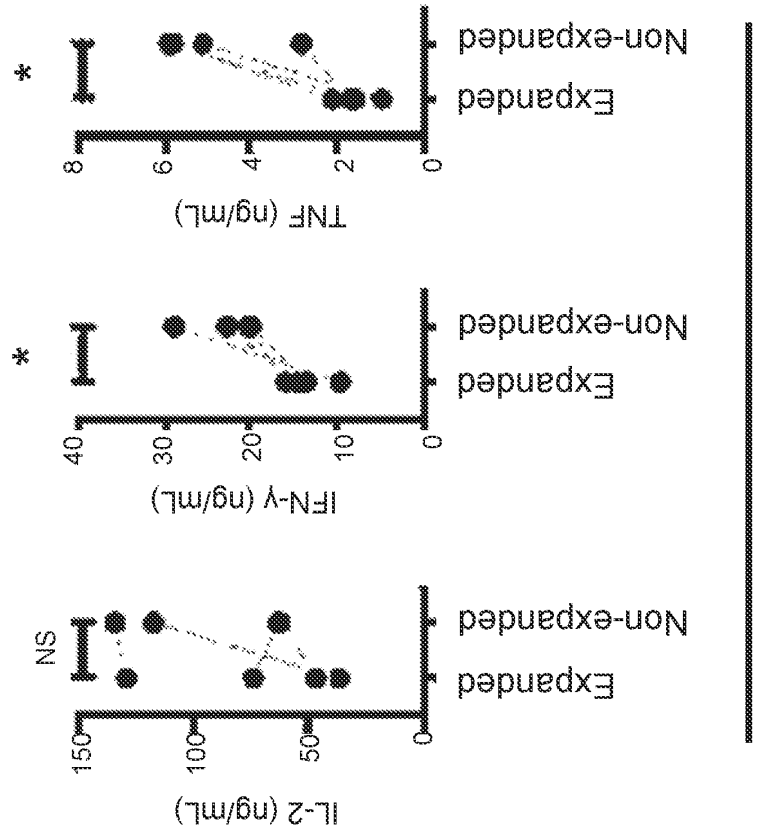

IL-2 (ng/mL)
150
100
50
0
NS
Expanded
Non-expanded
IFN-γ (ng/mL)
40
30
20
10
0
*
Expanded
Non-expanded
TNF (ng/mL)
8
6
4
2
0
*
Expanded
Non-expanded

FIG. 9E

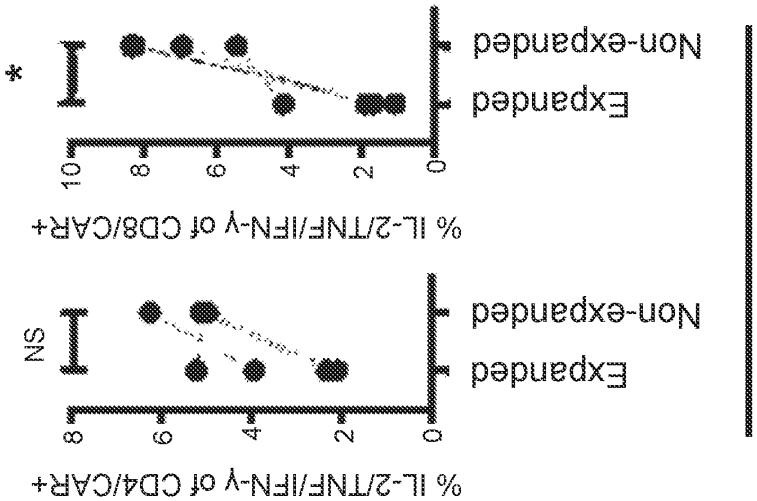

% IL-2/TNF/IFN-γ of CD4/CAR+
8
6
4
2
0
NS
Expanded
Non-expanded
% IL-2/TNF/IFN-γ of CD8/CAR+
10
8
6
4
2
0
*
Expanded
Non-expanded

FIG. 9D

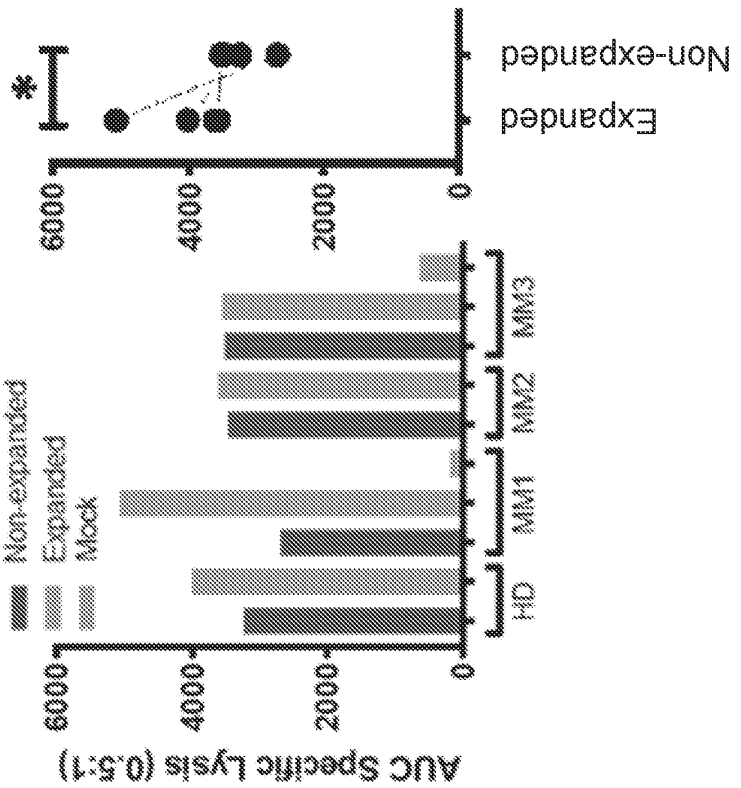


FIG. 10B

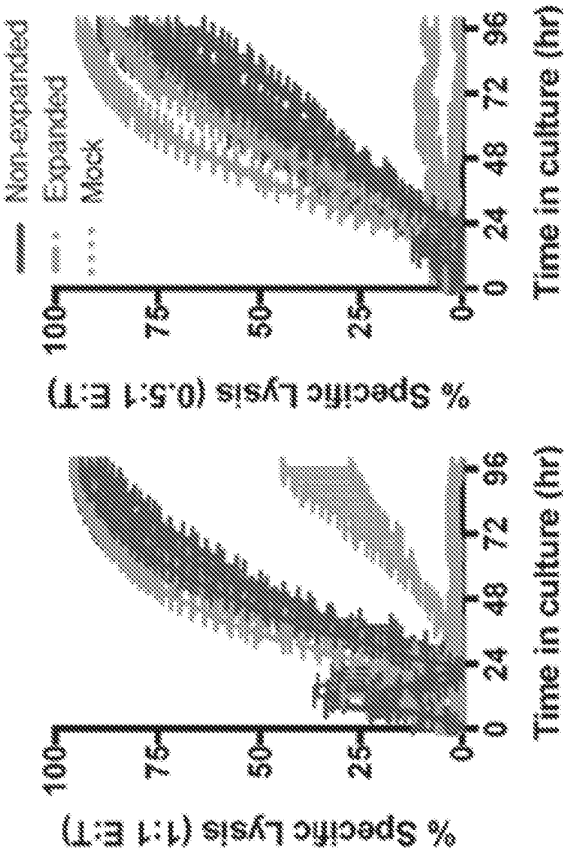


FIG. 10A

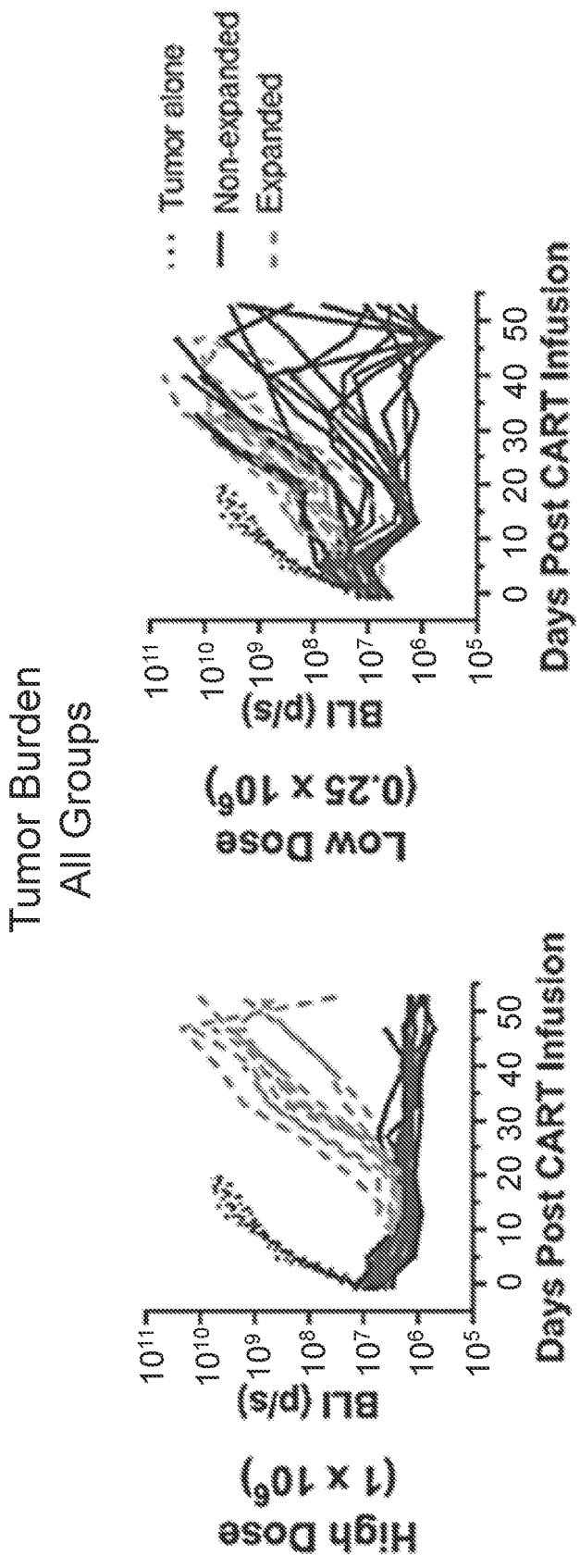

Tumor Burden
All Groups
Tumor alone
Non-expanded
Expanded
Low Dose
(0.25 x 10^6)
High Dose
(1 x 10^6)
BLI (p/s)
Days Post CART Infusion

FIG. 11A

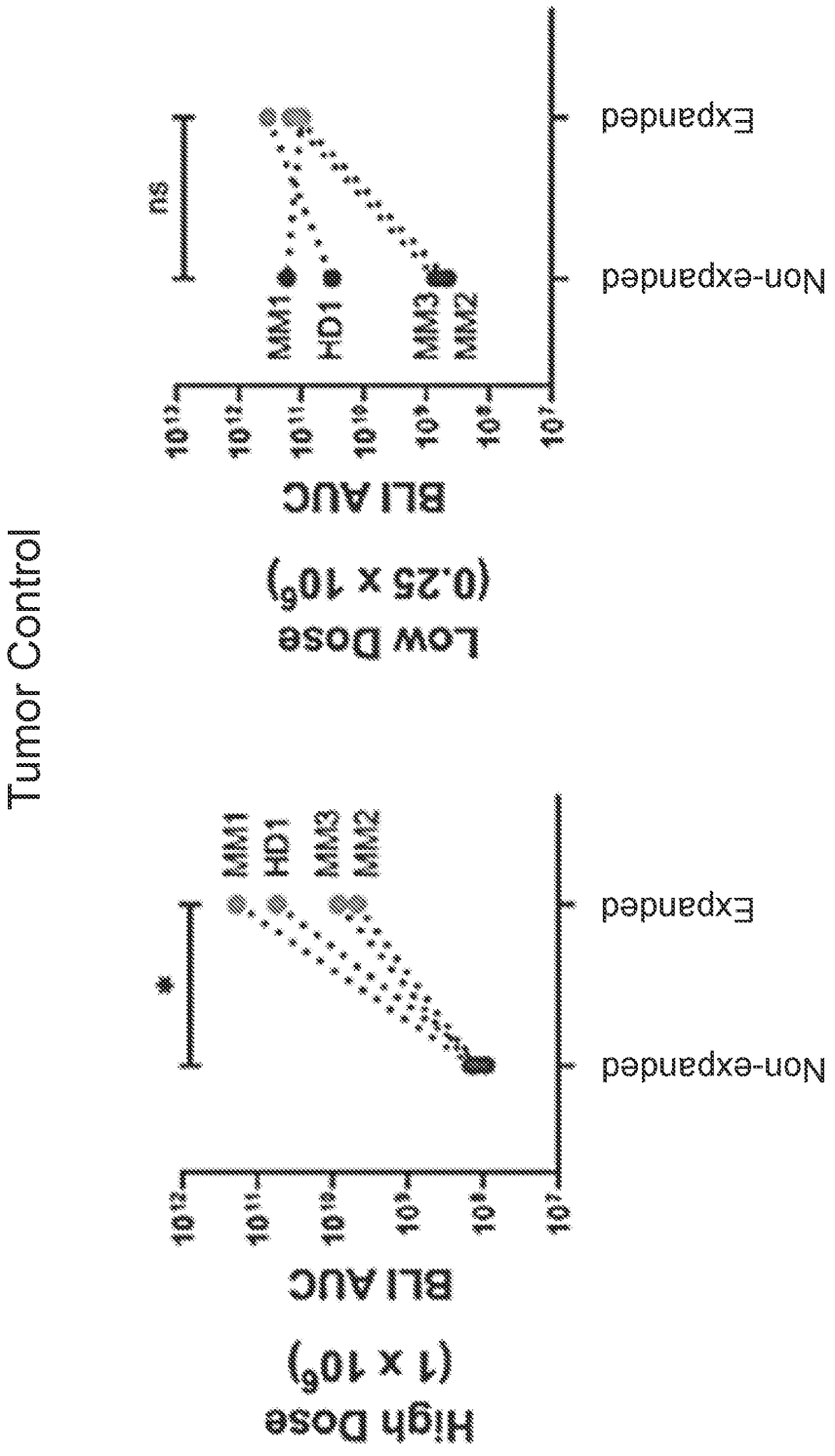

Tumor Control
High Dose
(1 x 10^9)
BLI AUC
Non-expanded
Expanded
*
MM1
HD1
MM3
MM2
Low Dose
(0.25 x 10^9)
BLI AUC
Non-expanded
Expanded
ns
MM1
HD1
MM3
MM2

FIG. 11B

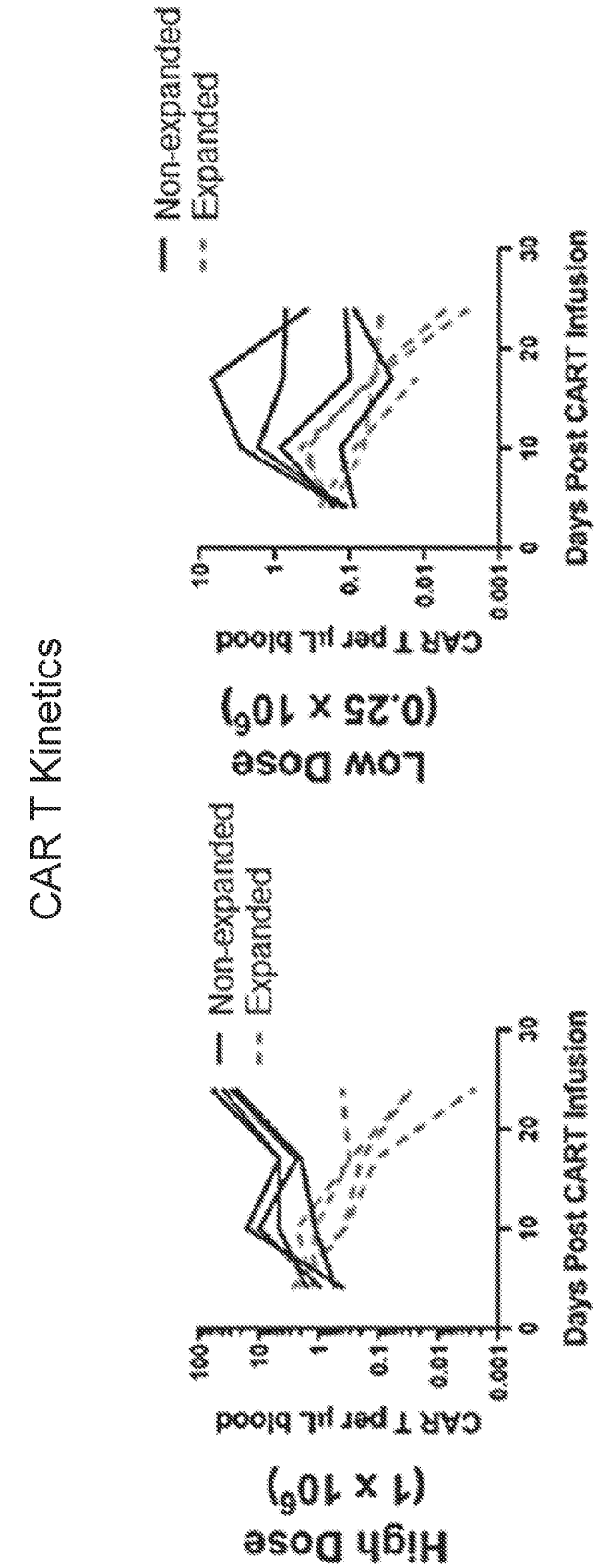

CAR T Kinetics
High Dose
(1 x 10^9)
Low Dose
(0.25 x 10^9)
— Non-expanded
-- Expanded
CAR T per µL blood
100
10
1
0.1
0.01
0.001
0
10
20
30
Days Post CART Infusion

FIG. 12A

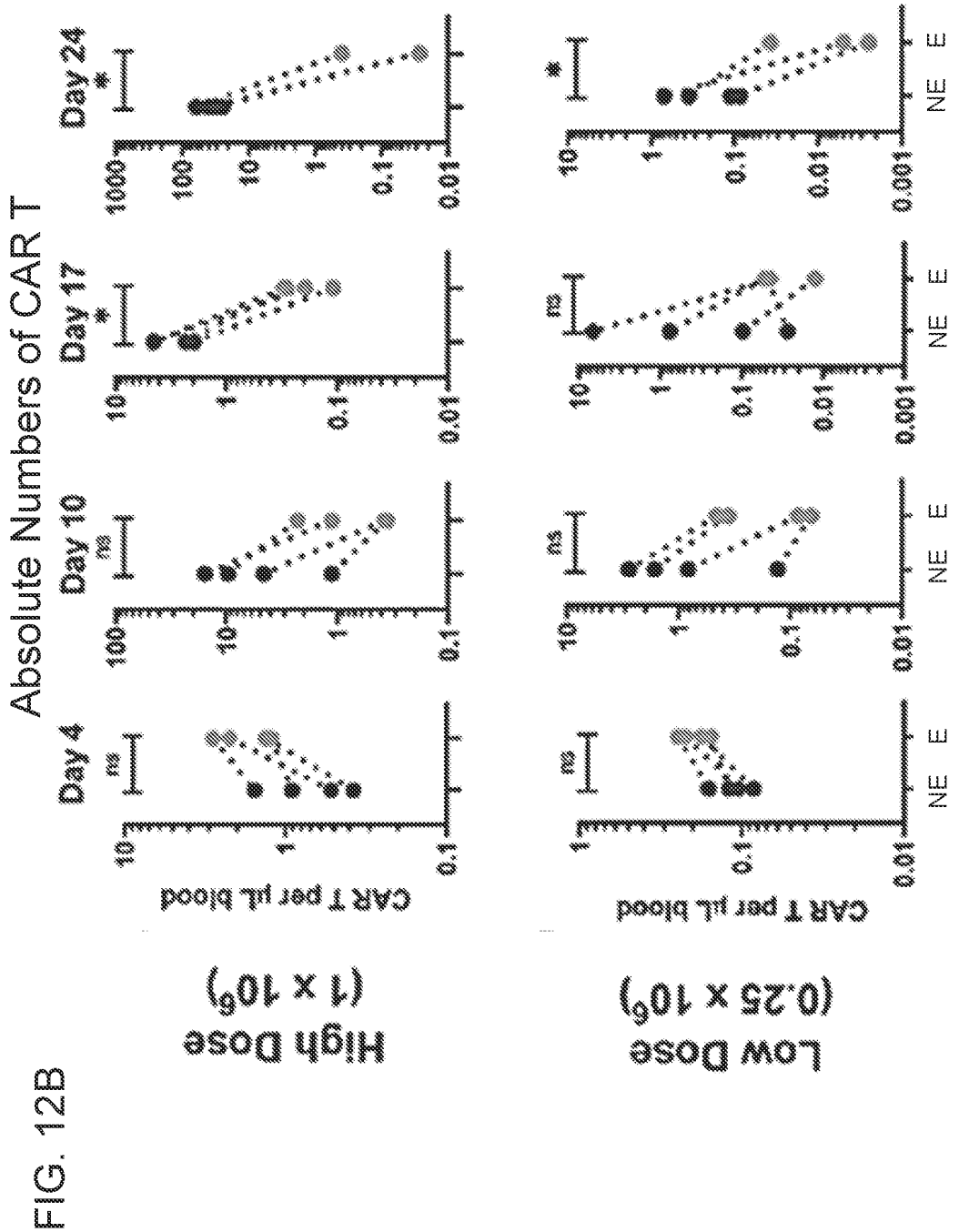

Absolute Numbers of CAR T
High Dose
(1 x 10^6)
Low Dose
(0.25 x 10^6)
Day 4
Day 10
Day 17
Day 24
CAR T per µL blood
ns
*
NE
E

FIG. 12B