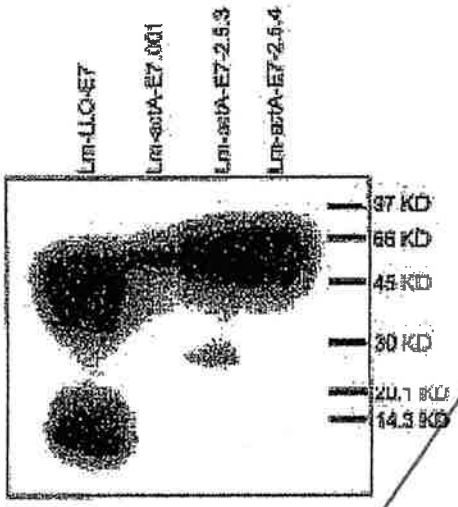


Figure 5A

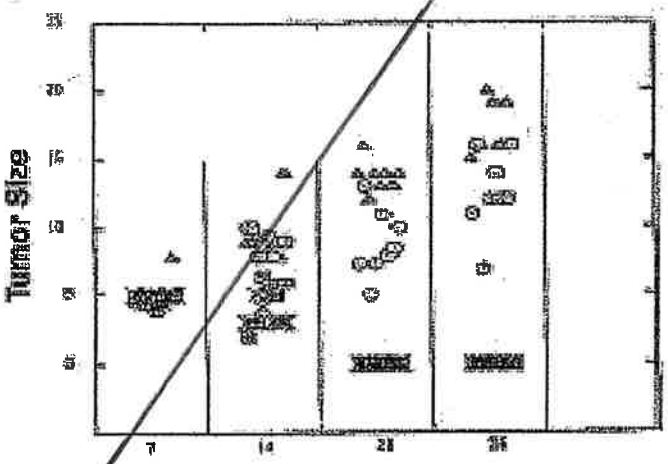


Figure 5B

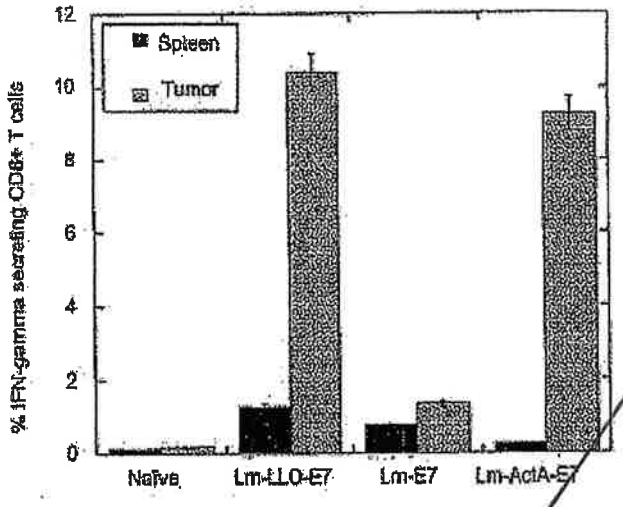


Figure 7A

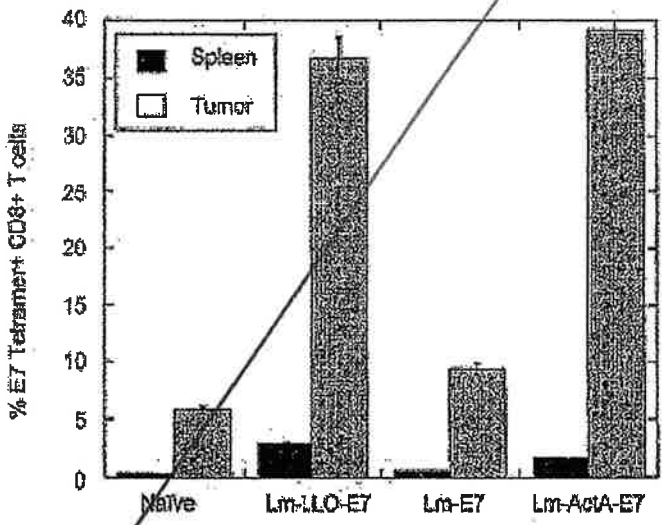


Figure 7B

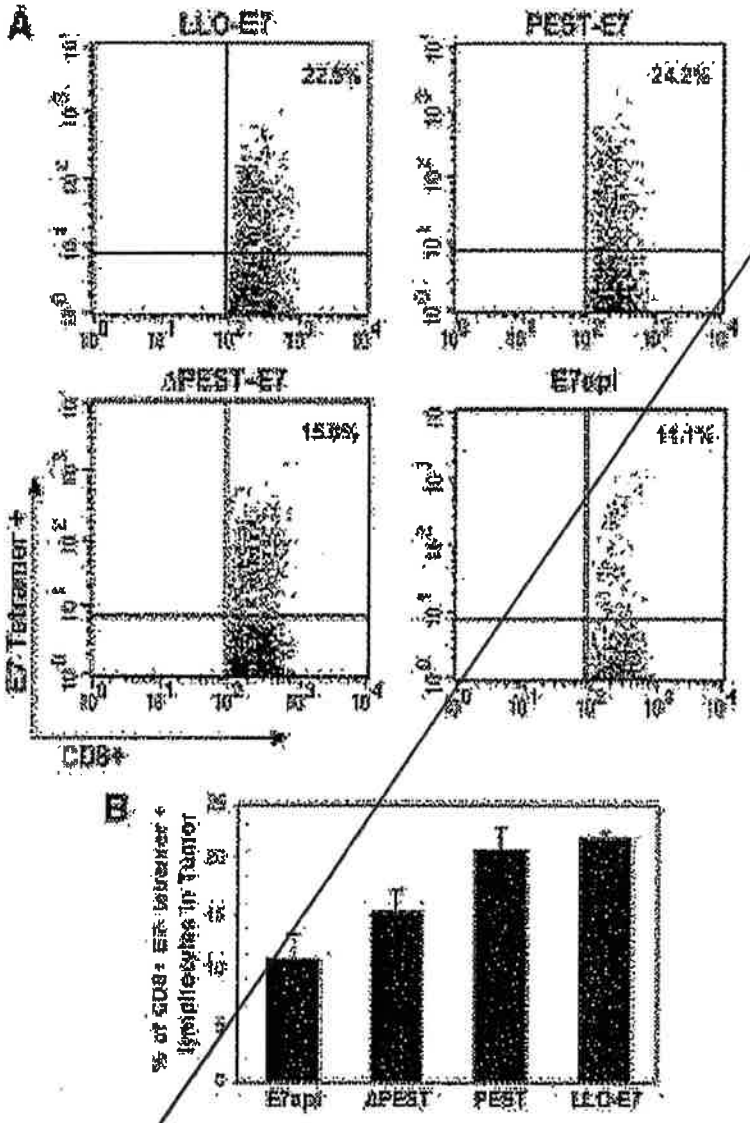

A
LLO-E7
22.6%
PEST-E7
24.2%
ΔPEST-E7
15.3%
E7epi
14.1%
E7 Tetramer+
CD8+
B
% of CD8+ E7 tetramer+ lymphocytes in Tumor
E7epi
ΔPEST
PEST
LLO-E7

Figure 8

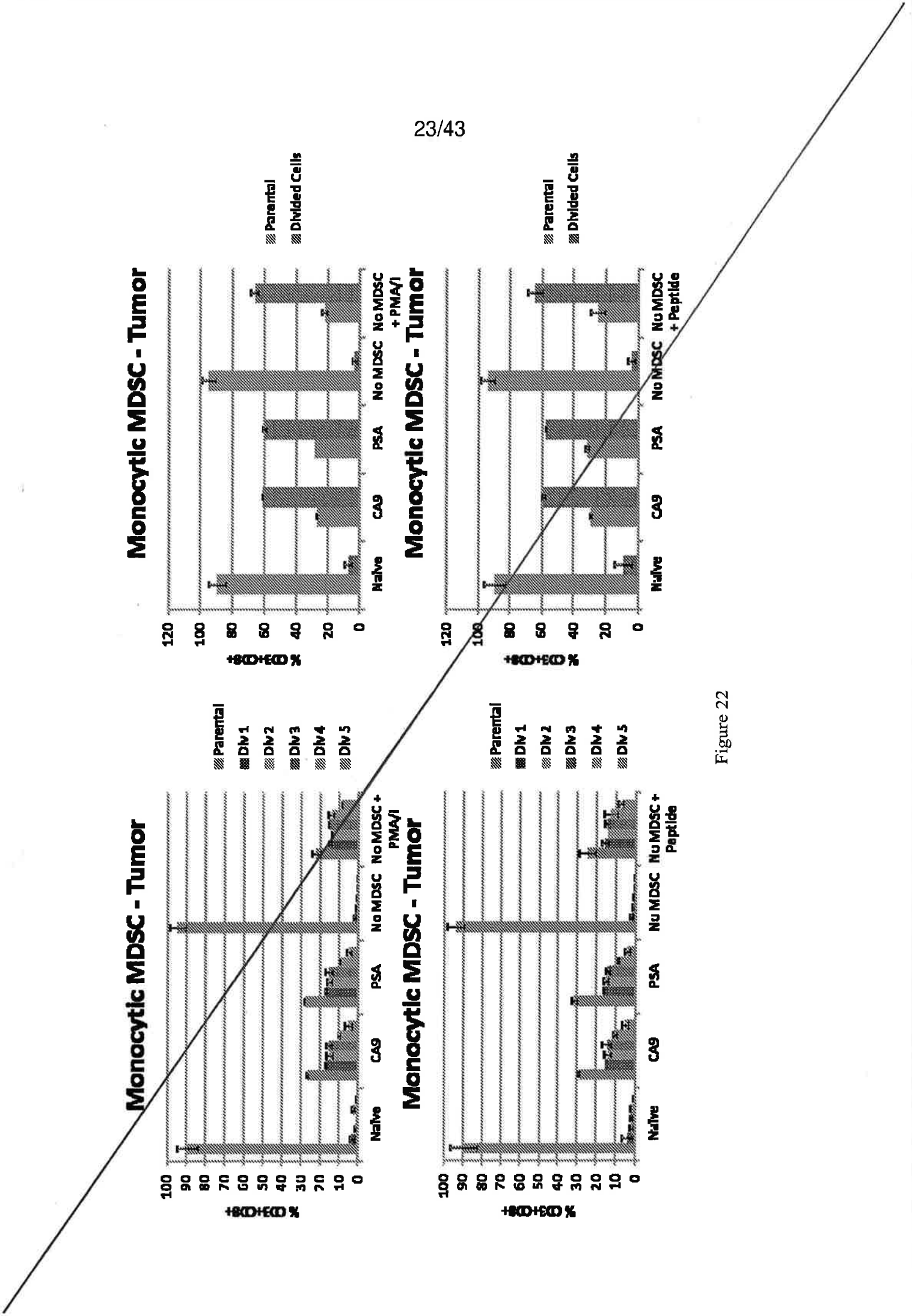

Monocytic MDSC - Tumor
% CD3+CD8+
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Naïve
CA9
PSA
No MDSC
No MDSC + PMA/I
Nu MDSC
Nu MDSC + Peptide
Parental
Divided Cells

Figure 22

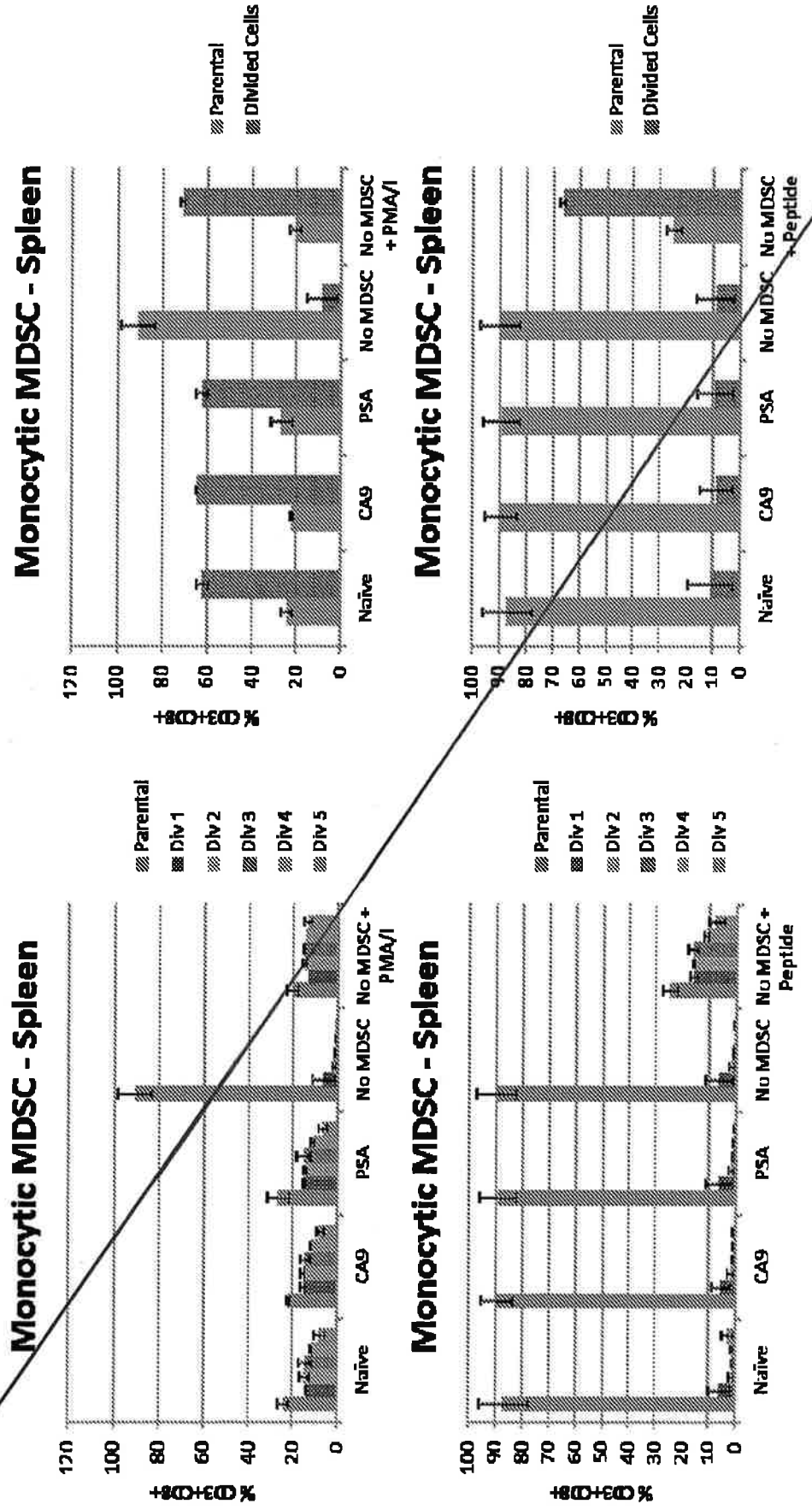

Monocytic MDSC - Spleen
% CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC + PMA/I
Parental
Divided Cells
Monocytic MDSC - Spleen
% CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC + Peptide
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Monocytic MDSC - Spleen
% CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC + PMA/I
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Monocytic MDSC - Spleen
% CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC + Peptide

Figure 23

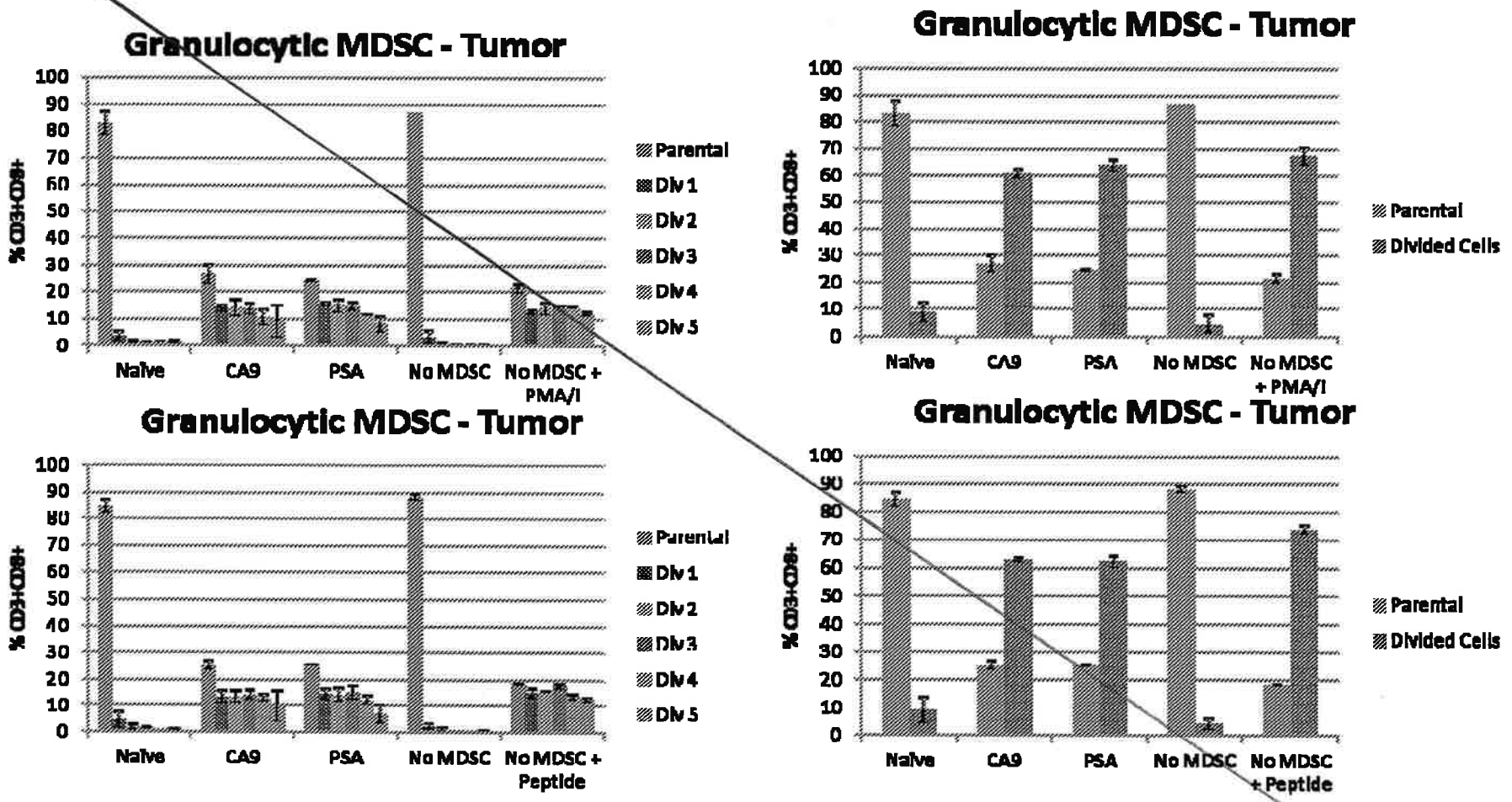

Granulocytic MDSC - Tumor
% CD3+CD8+
100
90
80
70
60
50
40
30
20
10
0
Naïve
CA9
PSA
No MDSC
No MDSC + PMA/I
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Granulocytic MDSC - Tumor
% CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC + PMA/I
Parental
Divided Cells
Granulocytic MDSC - Tumor
% CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC + Peptide
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Granulocytic MDSC - Tumor
% CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC + Peptide
Parental
Divided Cells

Figure 24

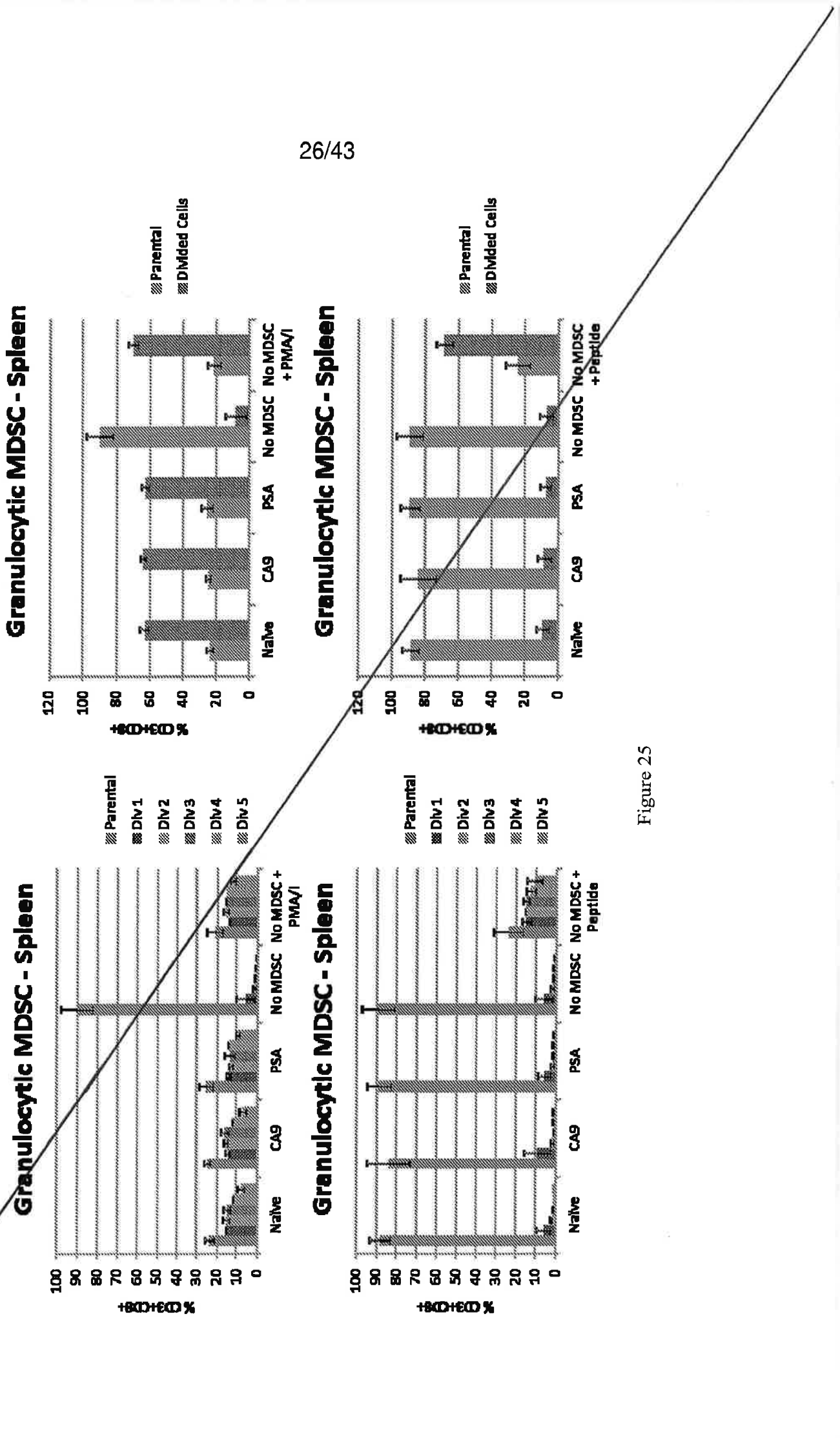

Granulocytic MDSC - Spleen
% CD3+CD8+
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Naive
CA9
PSA
No MDSC
No MDSC + PMA/I
Granulocytic MDSC - Spleen
% CD3+CD8+
Parental
Divided Cells
Naive
CA9
PSA
No MDSC
No MDSC + PMA/I
Granulocytic MDSC - Spleen
% CD3+CD8+
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Naive
CA9
PSA
No MDSC
No MDSC + Peptide
Granulocytic MDSC - Spleen
% CD3+CD8+
Parental
Divided Cells
Naive
CA9
PSA
No MDSC
No MDSC + Peptide

Figure 25

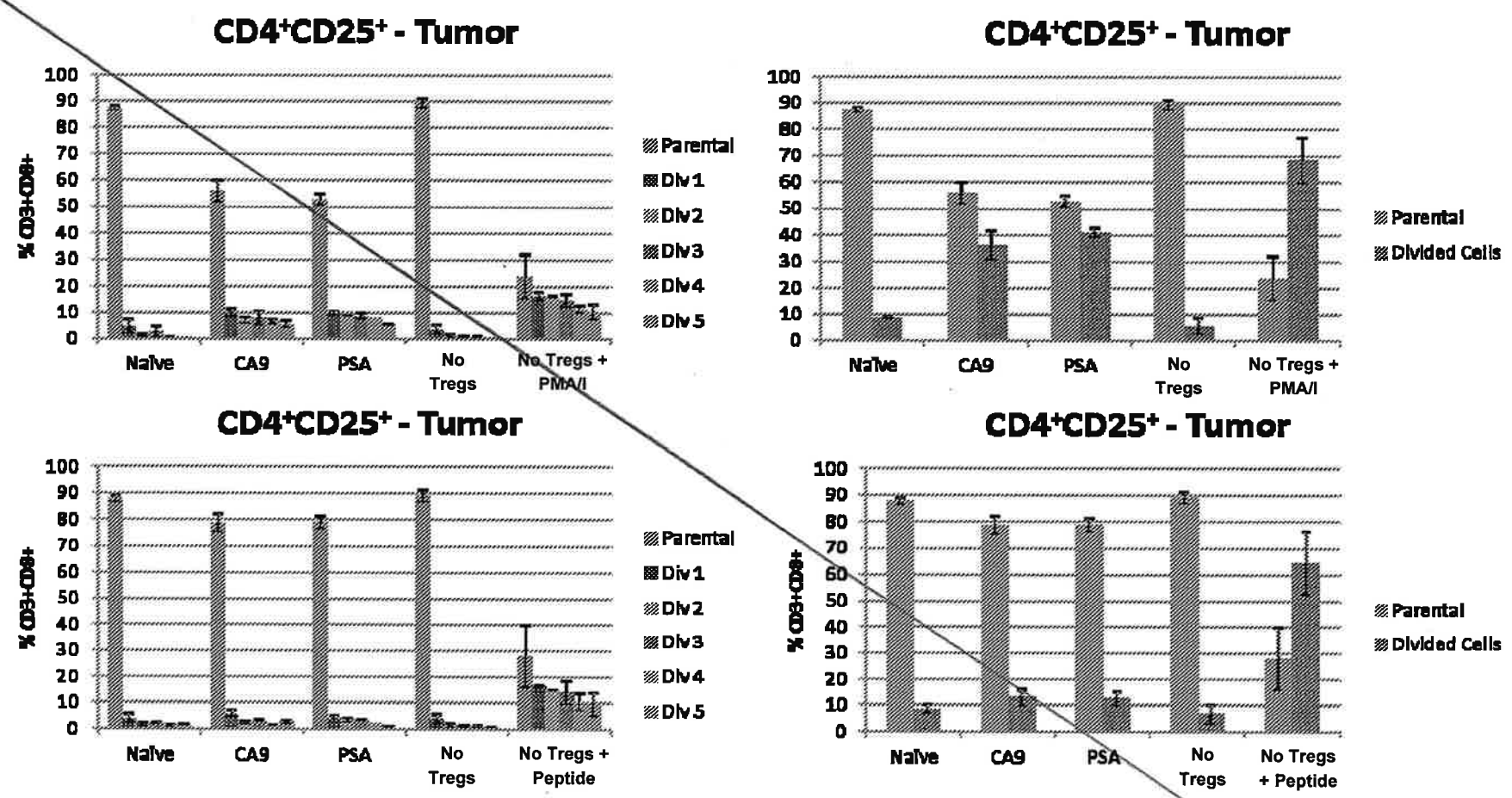

CD4+CD25+ - Tumor
% CD3+CD8+
100
90
80
70
60
50
40
30
20
10
0
Naïve
CA9
PSA
No Tregs
No Tregs + PMA/I
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
CD4+CD25+ - Tumor
Naïve
CA9
PSA
No Tregs
No Tregs + PMA/I
Parental
Divided Cells
CD4+CD25+ - Tumor
% CD3+CD8+
Naïve
CA9
PSA
No Tregs
No Tregs + Peptide
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
CD4+CD25+ - Tumor
% CD3+CD8+
Naïve
CA9
PSA
No Tregs
No Tregs + Peptide
Parental
Divided Cells

Figure 26

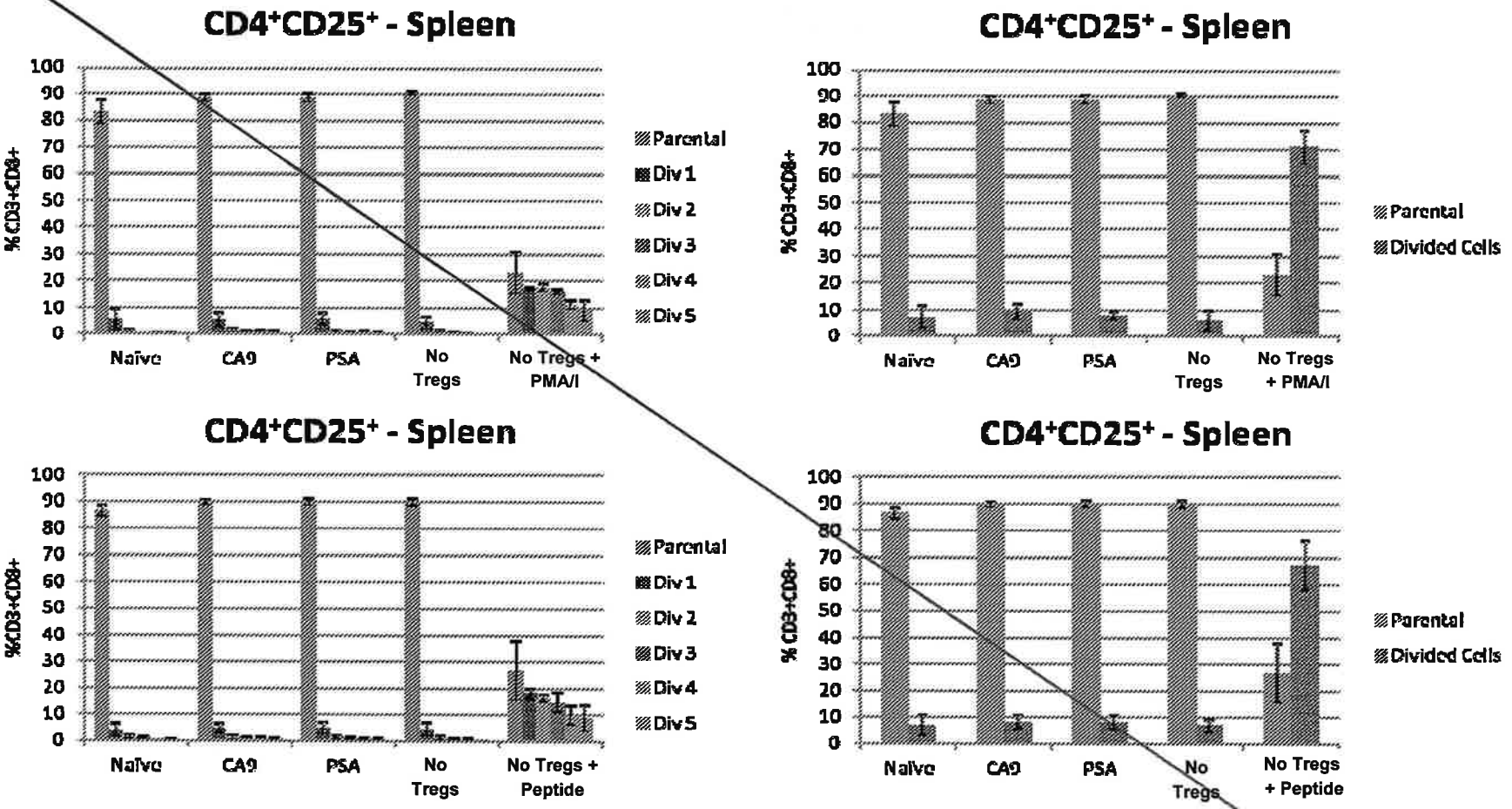

CD4+CD25+ - Spleen
% CD3+CD8+
100
90
80
70
60
50
40
30
20
10
0
Naïve
CA9
PSA
No Tregs
No Tregs + PMA/I
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
CD4+CD25+ - Spleen
% CD3+CD8+
Naïve
CA9
PSA
No Tregs
No Tregs + PMA/I
Parental
Divided Cells
CD4+CD25+ - Spleen
%CD3+CD8+
Naïve
CA9
PSA
No Tregs
No Tregs + Peptide
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
CD4+CD25+ - Spleen
% CD3+CD8+
Naïve
CA9
PSA
No Tregs
No Tregs + Peptide
Parental
Divided Cells

Figure 27

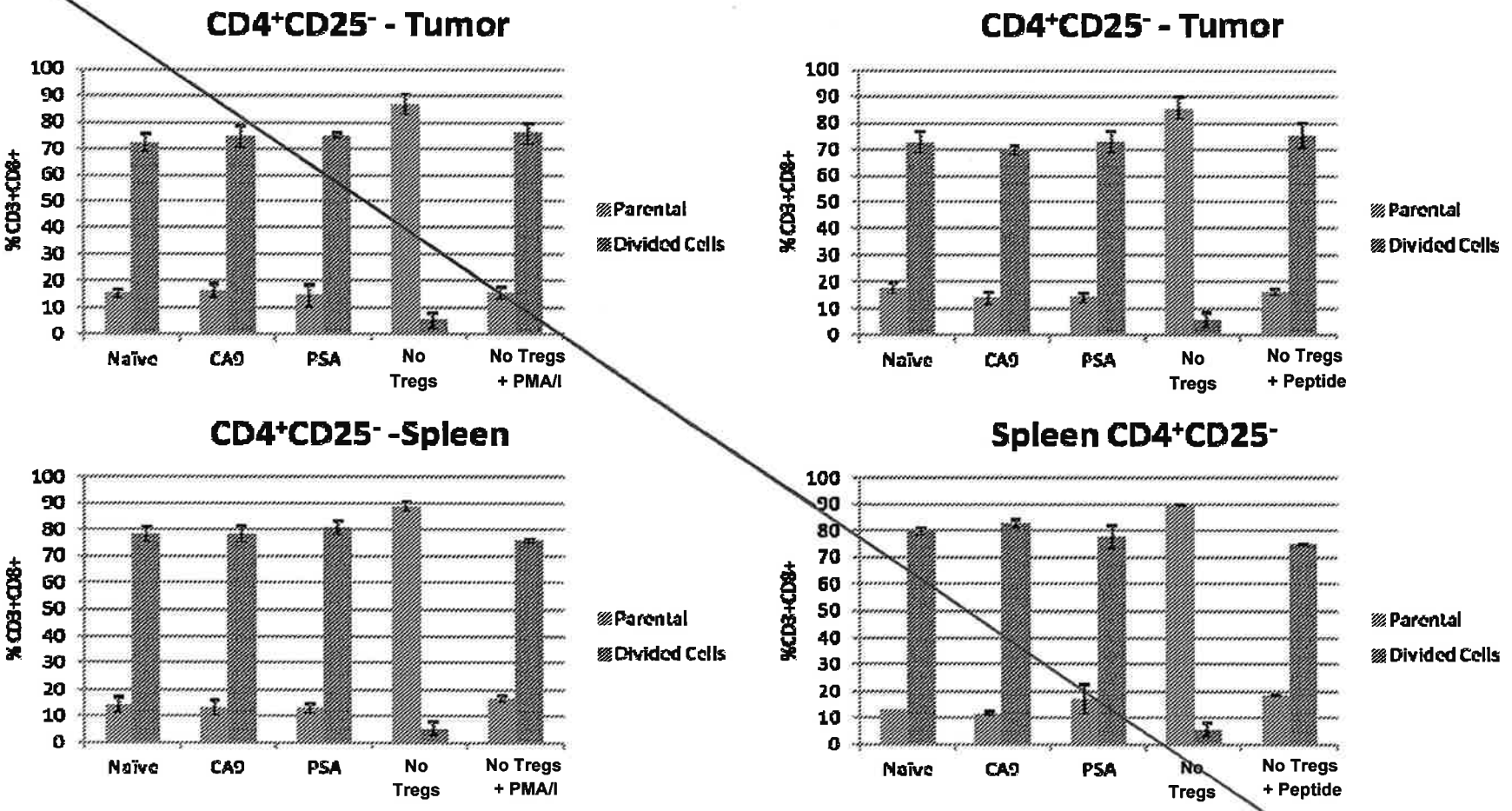

CD4+CD25- - Tumor
% CD3+CD8+
100
90
80
70
60
50
40
30
20
10
0
Naïve
CA9
PSA
No Tregs
No Tregs + PMA/I
Parental
Divided Cells
CD4+CD25- - Tumor
% CD3+CD8+
Naïve
CA9
PSA
No Tregs
No Tregs + Peptide
Parental
Divided Cells
CD4+CD25- -Spleen
% CD3+CD8+
Naïve
CA9
PSA
No Tregs
No Tregs + PMA/I
Parental
Divided Cells
Spleen CD4+CD25-
%CD3+CD8+
Naïve
CA9
PSA
No Tregs
No Tregs + Peptide
Parental
Divided Cells

Figure 28

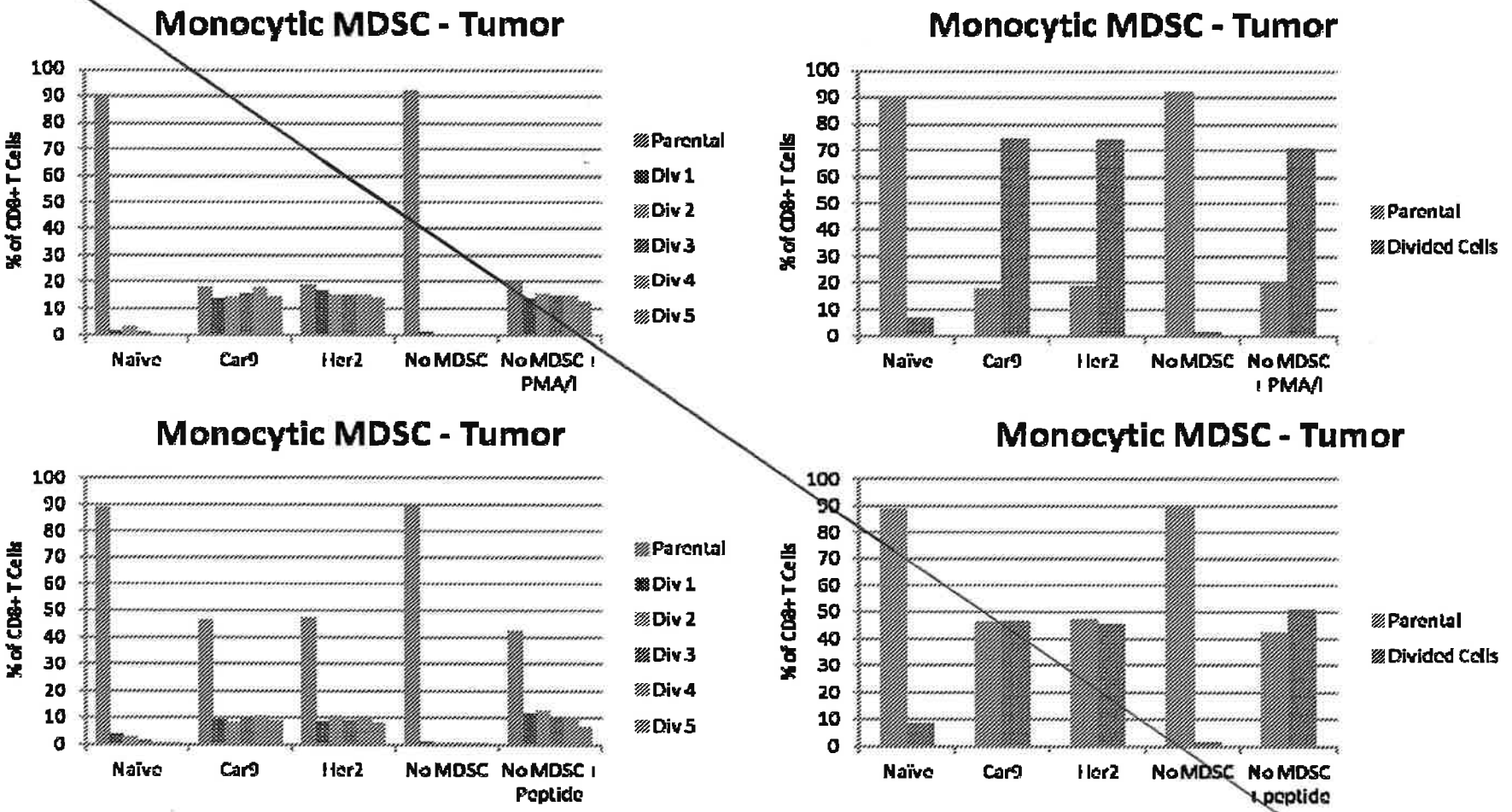

Monocytic MDSC - Tumor
% of CD8+ T Cells
100
90
80
70
60
50
40
30
20
10
0
Naïve
Car9
Her2
No MDSC
No MDSC + PMA/I
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Monocytic MDSC - Tumor
% of CD8+ T Cells
Naïve
Car9
Her2
No MDSC
No MDSC + PMA/I
Parental
Divided Cells
Monocytic MDSC - Tumor
% of CD8+ T Cells
Naïve
Car9
Her2
No MDSC
No MDSC + Peptide
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Monocytic MDSC - Tumor
% of CD8+ T Cells
Naïve
Car9
Her2
No MDSC
No MDSC + peptide
Parental
Divided Cells

Figure 29

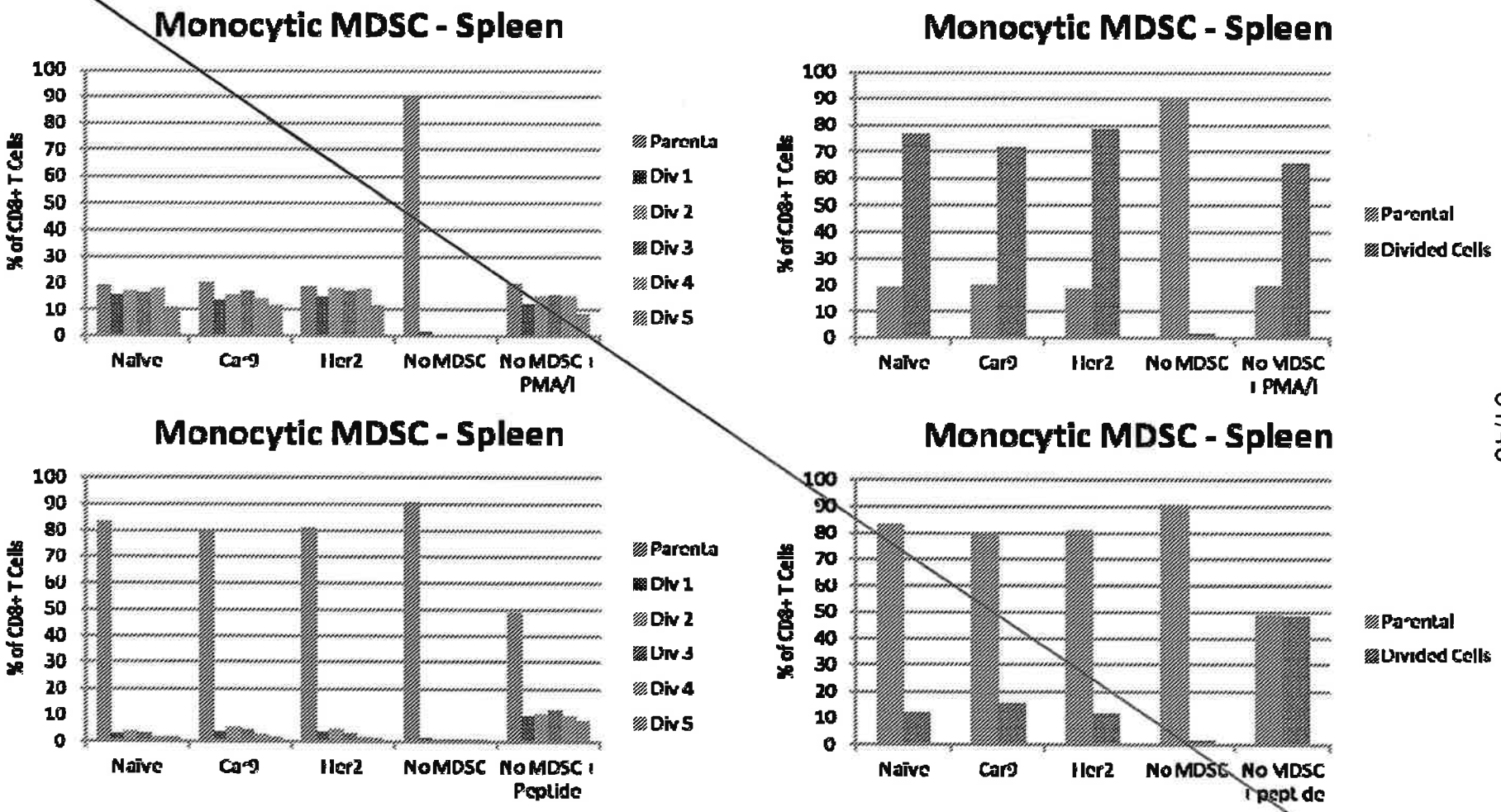

Monocytic MDSC - Spleen
% of CD8+ T Cells
100
90
80
70
60
50
40
30
20
10
0
Naive
Car9
Her2
No MDSC
No MDSC + PMA/I
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Monocytic MDSC - Spleen
% of CD8+ T Cells
Naive
Car9
Her2
No MDSC
No MDSC + PMA/I
Parental
Divided Cells
Monocytic MDSC - Spleen
% of CD8+ T Cells
Naive
Car9
Her2
No MDSC
No MDSC + Peptide
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Monocytic MDSC - Spleen
% of CD8+ T Cells
Naive
Car9
Her2
No MDSC
No MDSC + peptide
Parental
Divided Cells

Figure 30

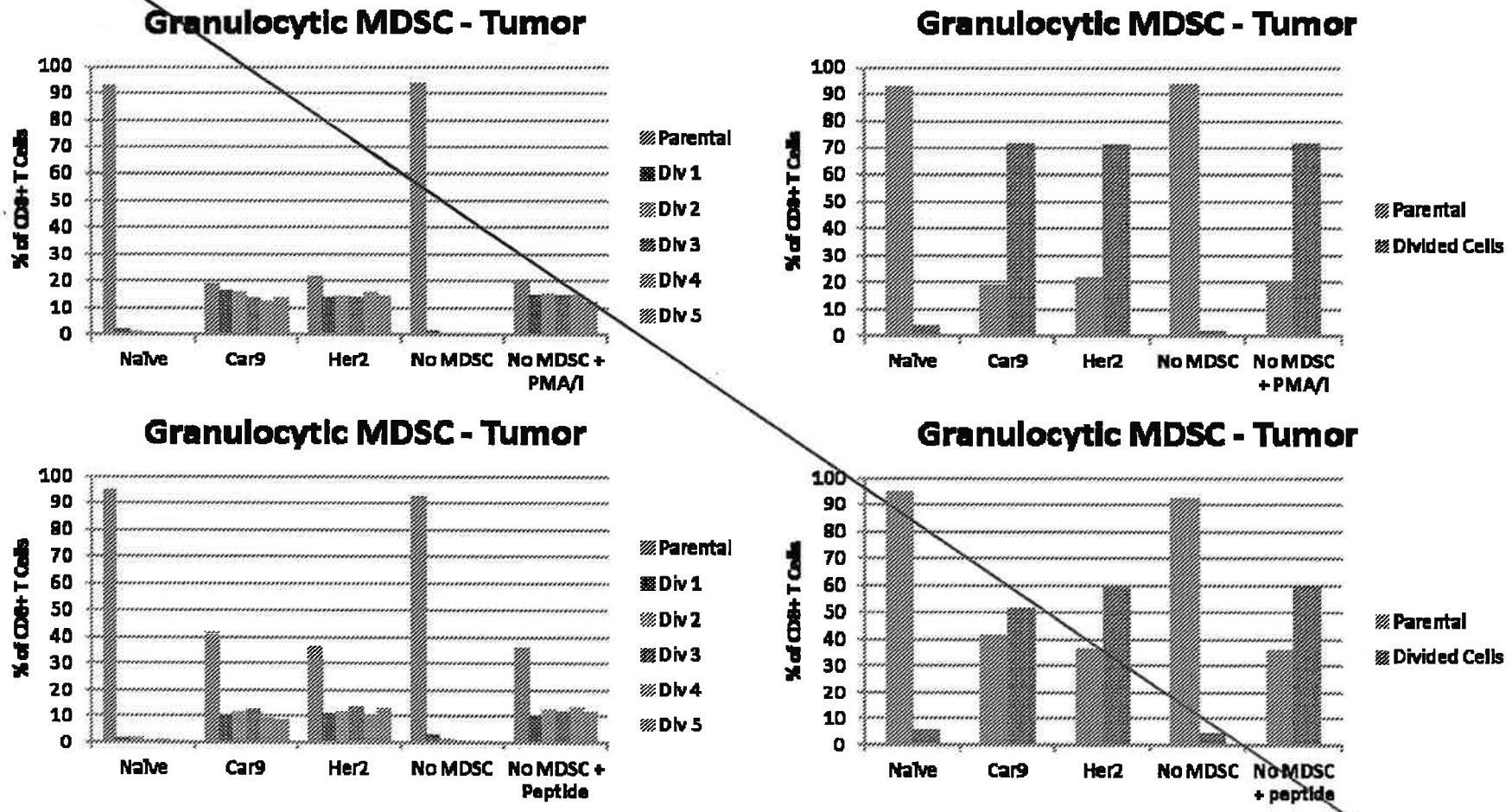

Granulocytic MDSC - Tumor
% of CD8+ T Cells
100
90
80
70
60
50
40
30
20
10
0
Naïve
Car9
Her2
No MDSC
No MDSC + PMA/I
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Granulocytic MDSC - Tumor
% of CD8+ T Cells
Naïve
Car9
Her2
No MDSC
No MDSC + PMA/I
Parental
Divided Cells
Granulocytic MDSC - Tumor
% of CD8+ T Cells
Naïve
Car9
Her2
No MDSC
No MDSC + Peptide
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Granulocytic MDSC - Tumor
% of CD8+ T Cells
Naïve
Car9
Her2
No MDSC
No MDSC + peptide
Parental
Divided Cells

Figure 31

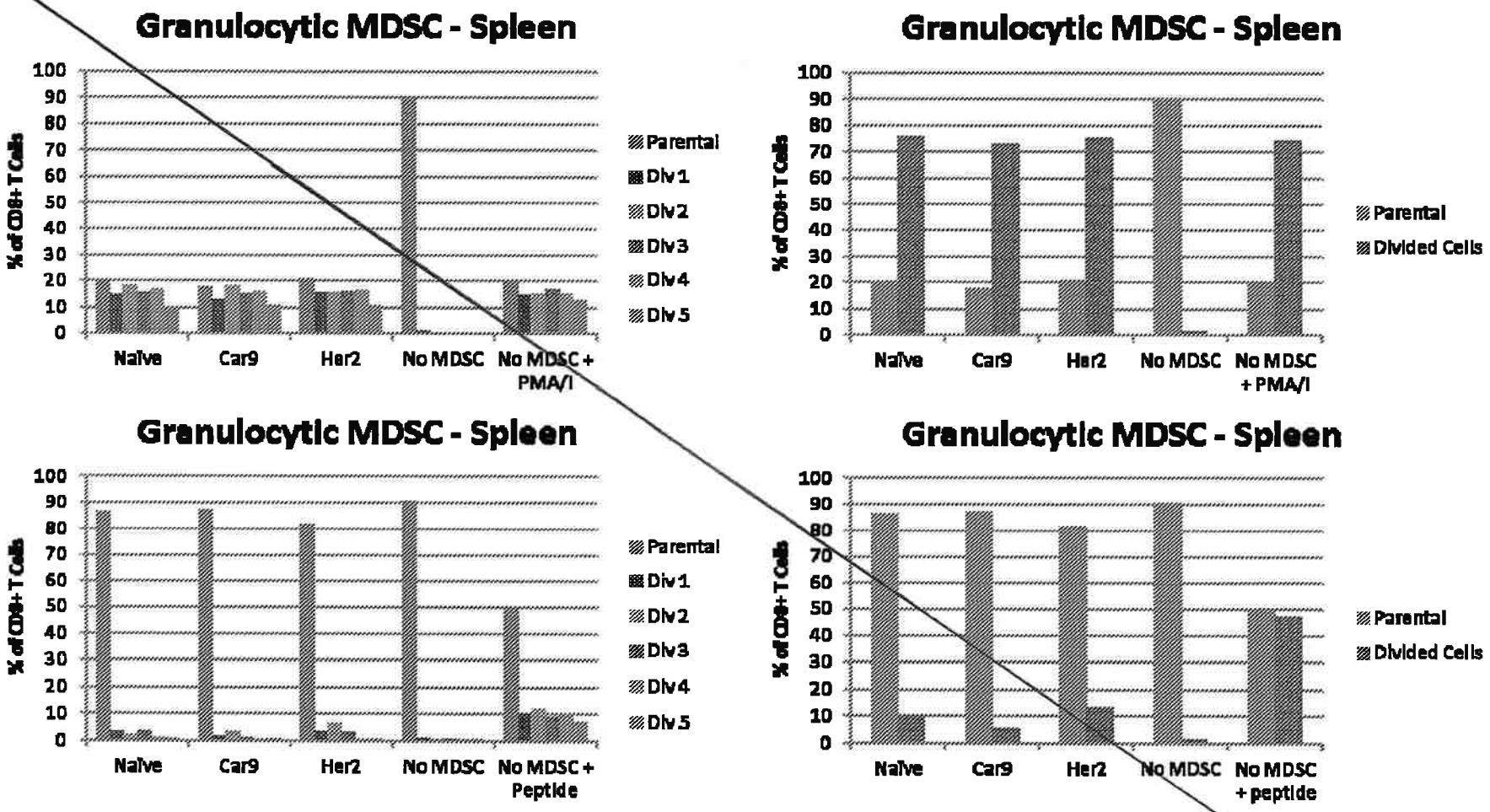

Granulocytic MDSC - Spleen
% of CD8+ T Cells
100
90
80
70
60
50
40
30
20
10
0
Naïve
Car9
Her2
No MDSC
No MDSC + PMA/I
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Granulocytic MDSC - Spleen
% of CD8+ T Cells
Naïve
Car9
Her2
No MDSC
No MDSC + PMA/I
Parental
Divided Cells
Granulocytic MDSC - Spleen
% of CD8+ T Cells
Naïve
Car9
Her2
No MDSC
No MDSC + Peptide
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
Granulocytic MDSC - Spleen
% of CD8+ T Cells
Naïve
Car9
Her2
No MDSC
No MDSC + peptide
Parental
Divided Cells

Figure 32

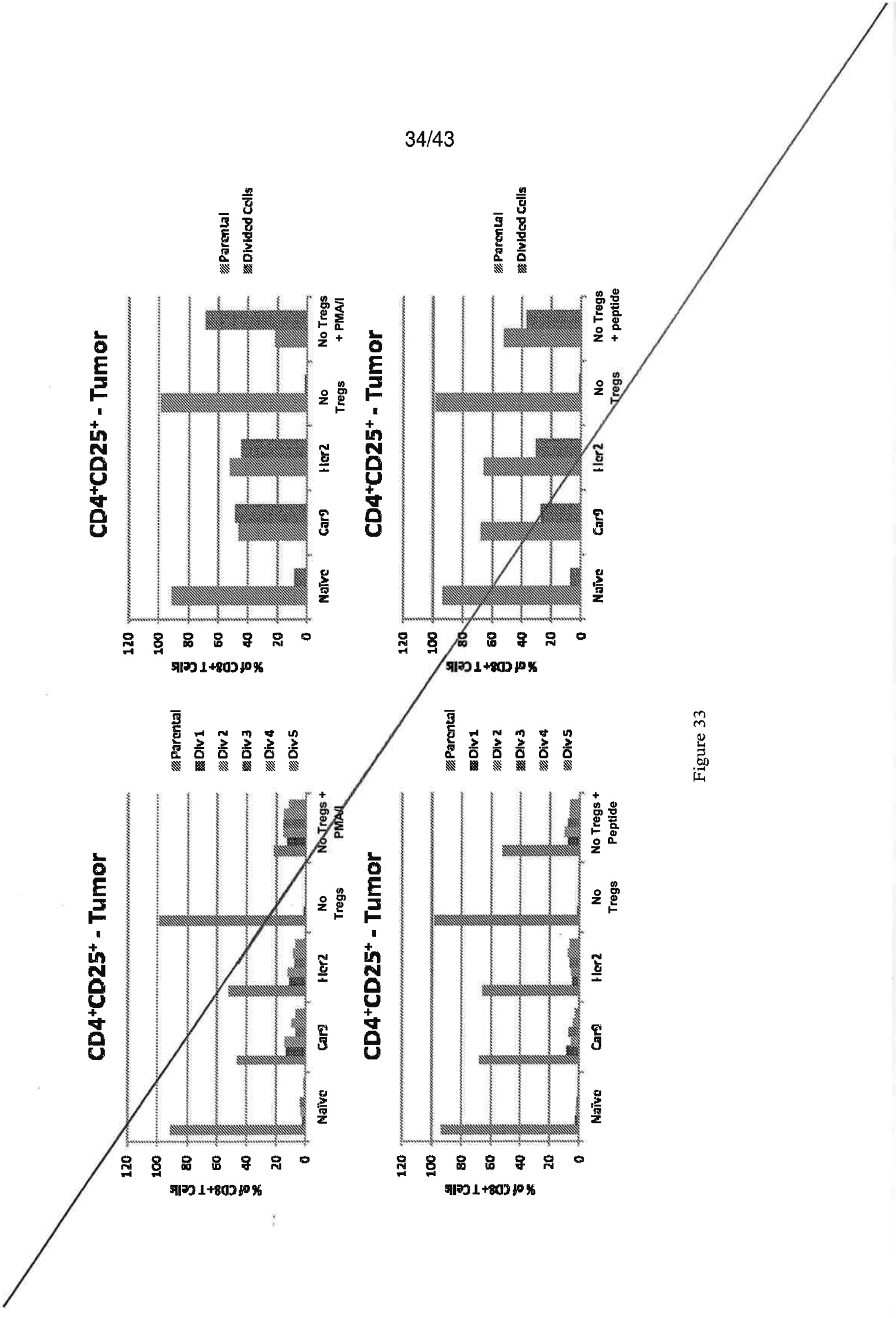

CD4+CD25+ - Tumor
% of CD8+ T cells
120
100
80
60
40
20
0
Naive
Car9
Her2
No Tregs
No Tregs + PMA/I
Parental
Divided Cells
CD4+CD25+ - Tumor
% of CD8+ T cells
Naive
Car9
Her2
No Tregs
No Tregs + peptide
Parental
Divided Cells
CD4+CD25+ - Tumor
% of CD8+ T cells
Naive
Car9
Her2
No Tregs
No Tregs + PMA/I
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
CD4+CD25+ - Tumor
% of CD8+ T cells
Naive
Car9
Her2
No Tregs
No Tregs + Peptide
Parental
Div 1
Div 2
Div 3
Div 4
Div 5

Figure 33

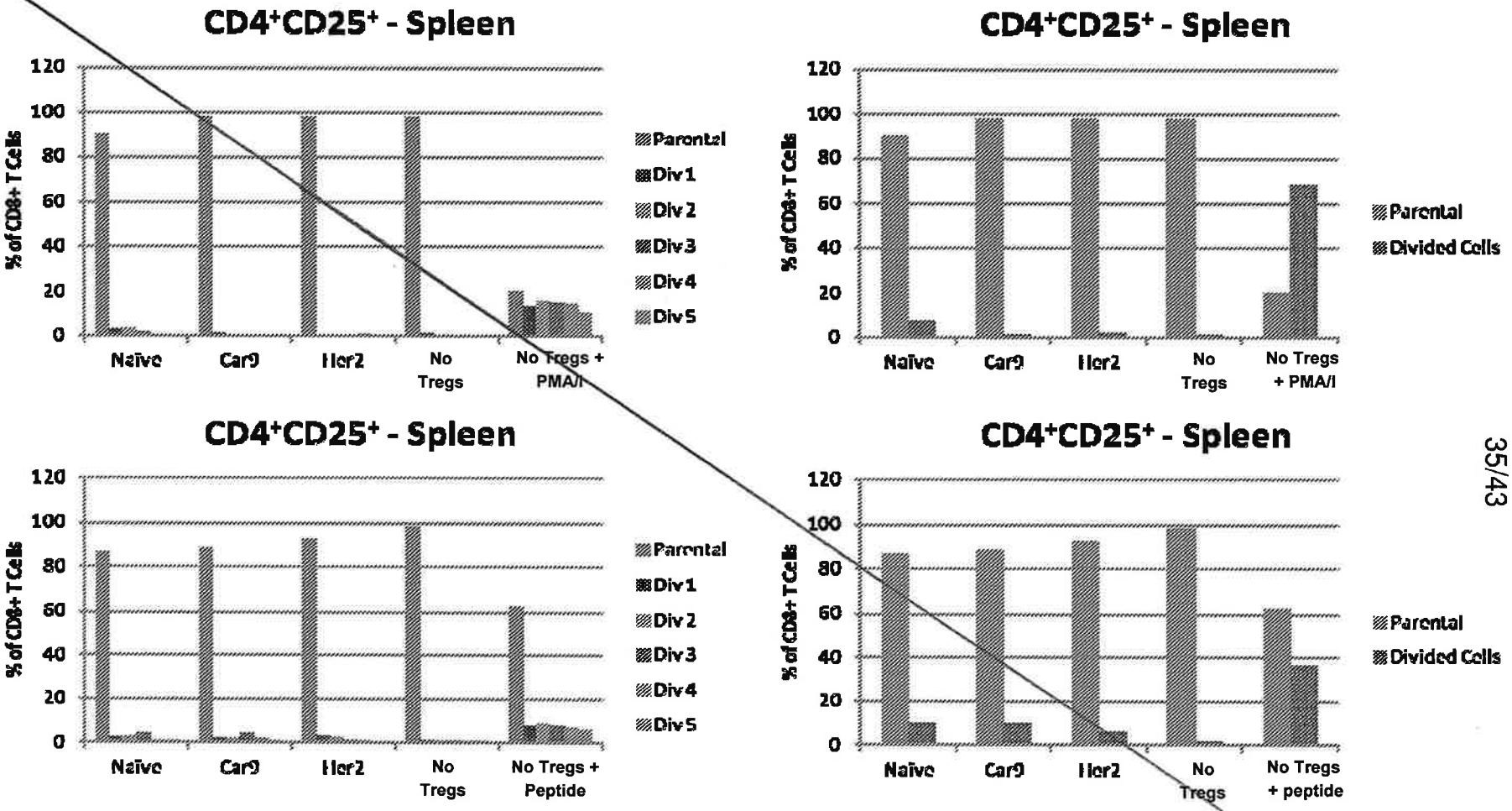

CD4+CD25+ - Spleen
% of CD8+ T Cells
120
100
80
60
40
20
0
Naive
Car9
Her2
No Tregs
No Tregs + PMA/I
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
CD4+CD25+ - Spleen
% of CD8+ T Cells
Naive
Car9
Her2
No Tregs
No Tregs + PMA/I
Parental
Divided Cells
CD4+CD25+ - Spleen
% of CD8+ T Cells
Naive
Car9
Her2
No Tregs
No Tregs + Peptide
Parental
Div 1
Div 2
Div 3
Div 4
Div 5
CD4+CD25+ - Spleen
% of CD8+ T Cells
Naive
Car9
Her2
No Tregs
No Tregs + peptide
Parental
Divided Cells

Figure 34

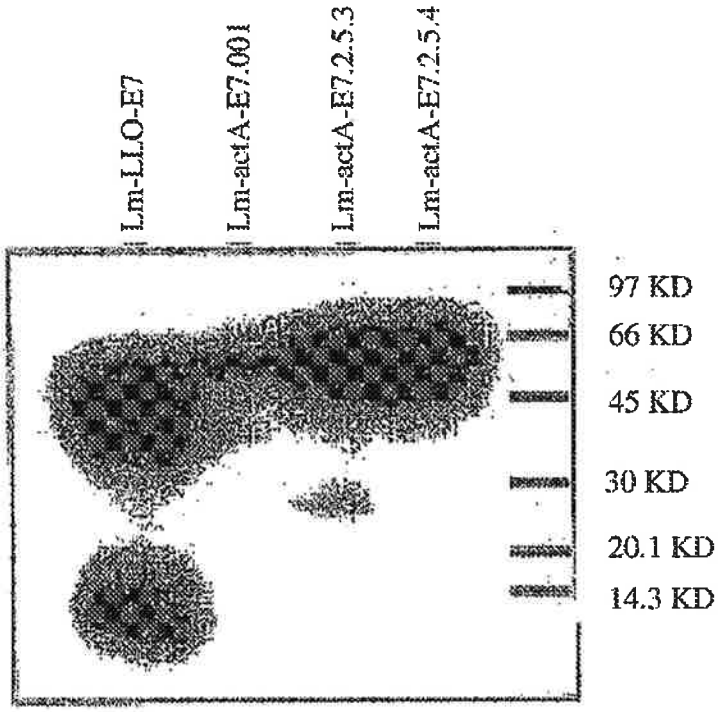


Figure 5A

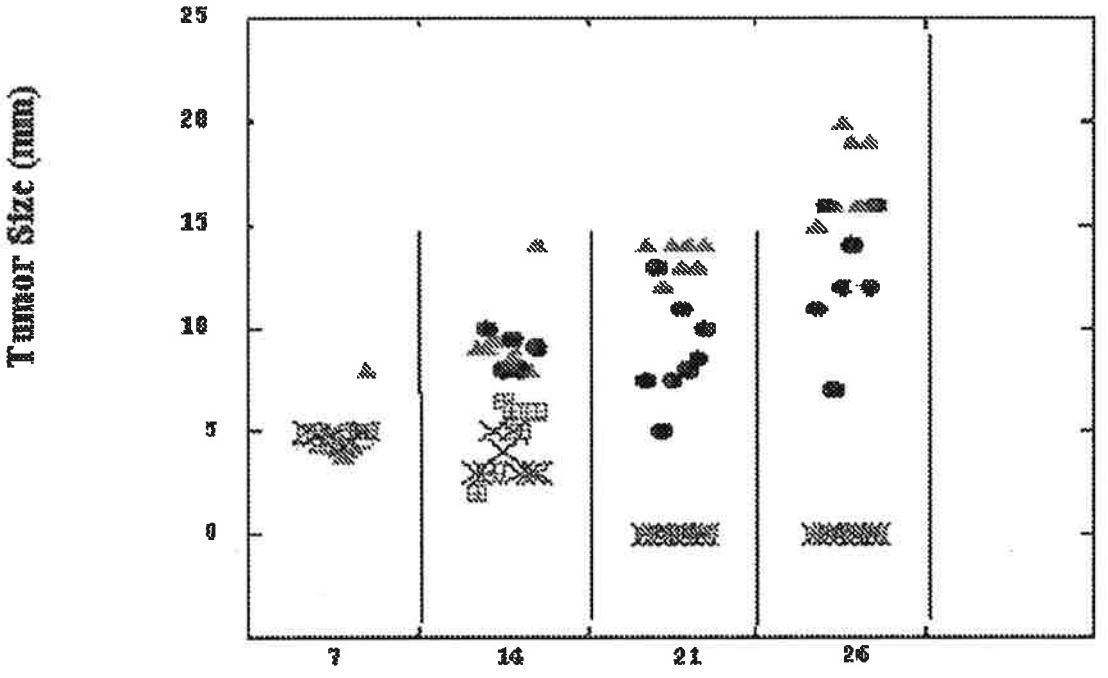


Figure 5B

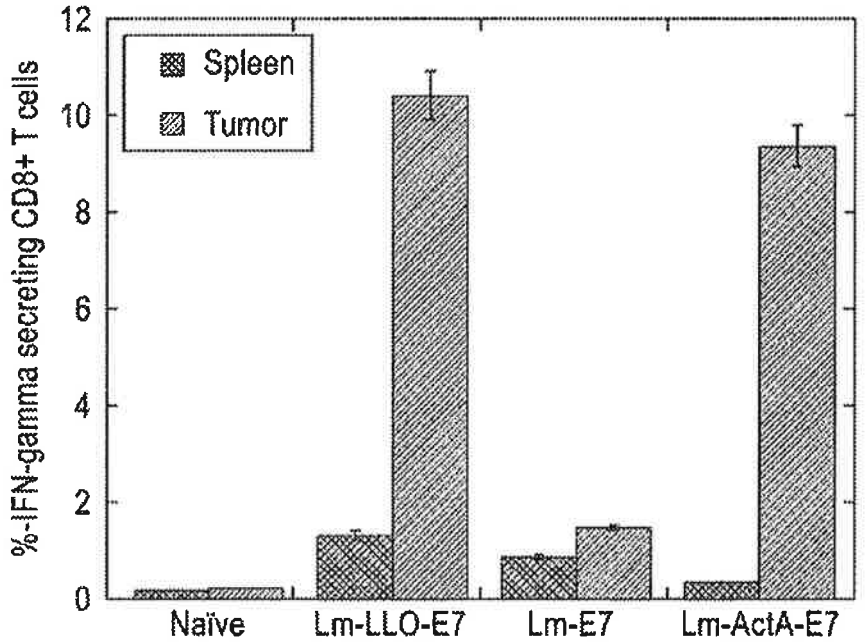


Figure 7A

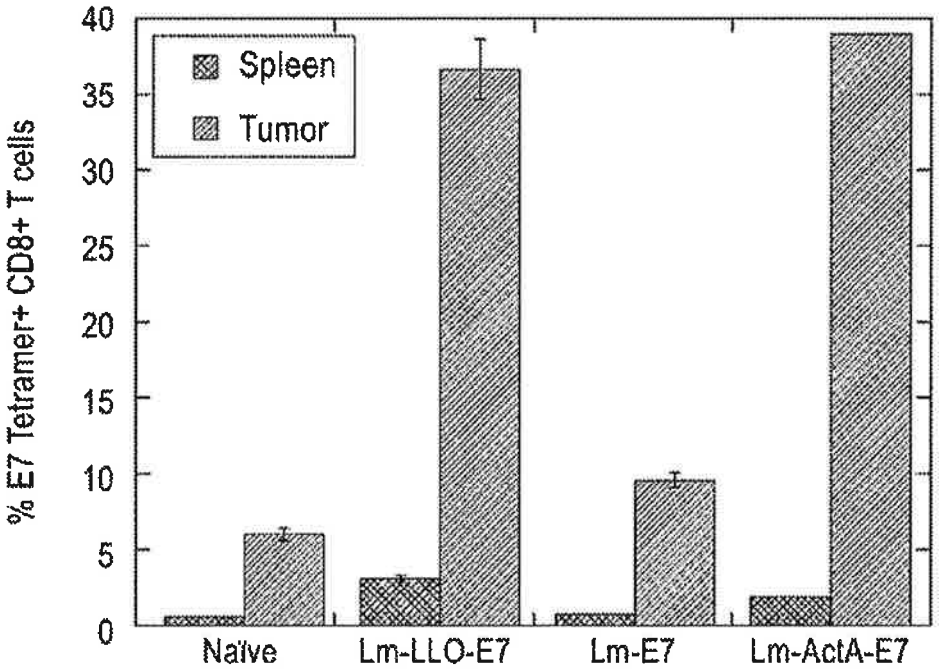


Figure 7B

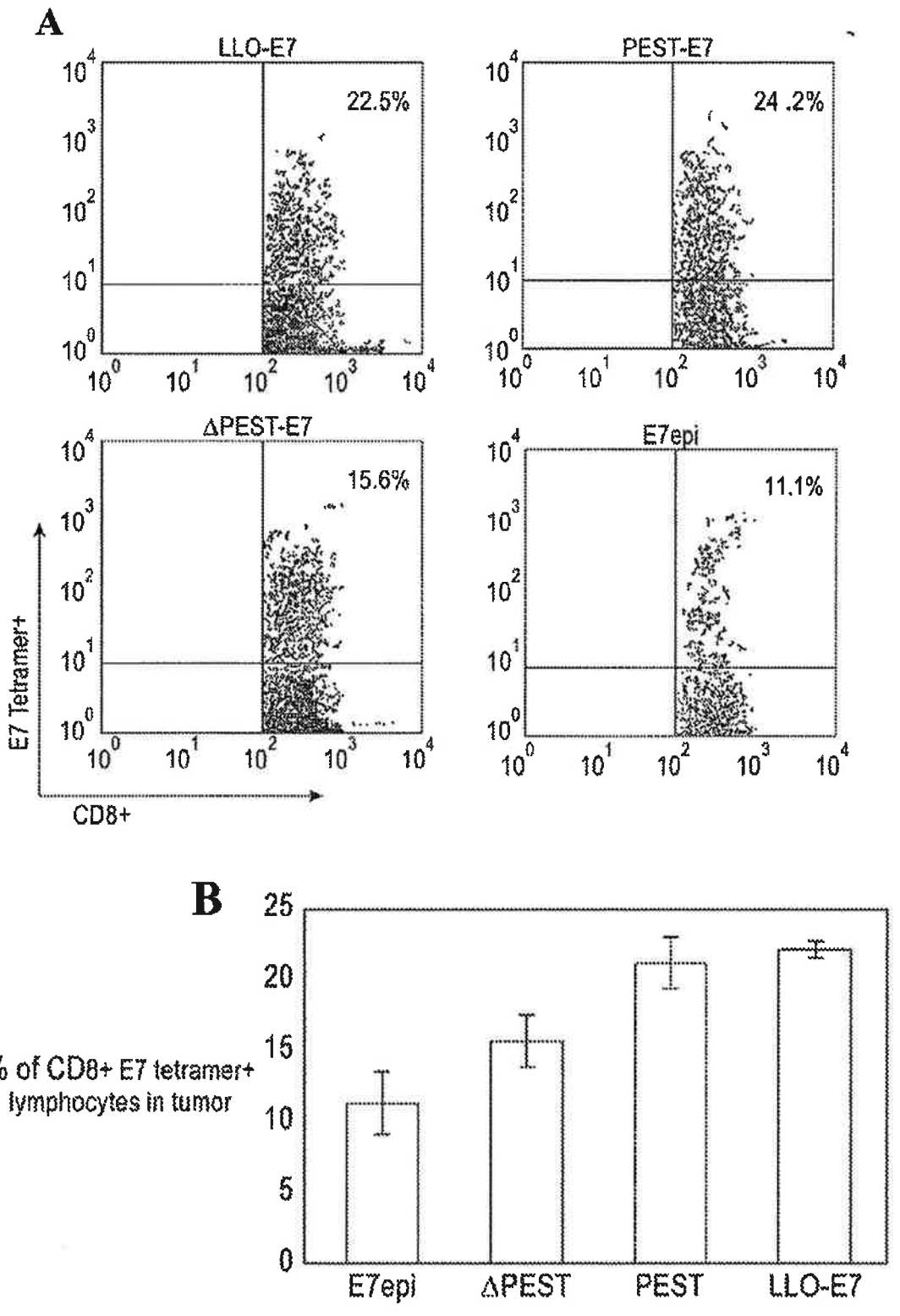

A
LLO-E7
22.5%
PEST-E7
24 .2%
ΔPEST-E7
15.6%
E7epi
11.1%
E7 Tetramer+
CD8+
B
% of CD8+ E7 tetramer+ lymphocytes in tumor
25
20
15
10
5
0
E7epi
ΔPEST
PEST
LLO-E7

Figure 8

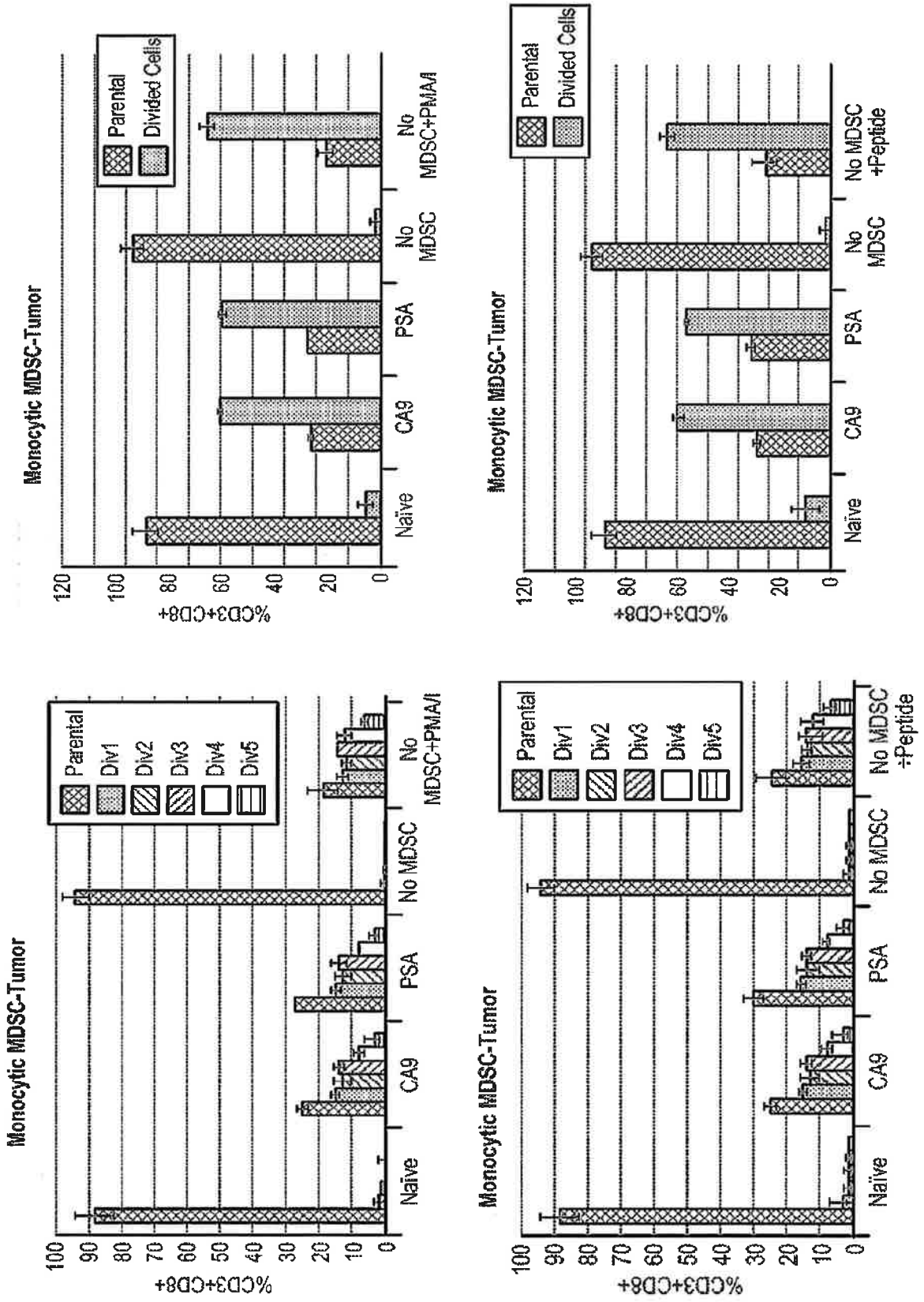

Monocytic MDSC-Tumor
%CD3+CD8+
Parental
Div1
Div2
Div3
Div4
Div5
Naïve
CA9
PSA
No MDSC
No MDSC+PMA/I
Monocytic MDSC-Tumor
%CD3+CD8+
Parental
Divided Cells
Naïve
CA9
PSA
No MDSC
No MDSC+PMA/I
Monocytic MDSC-Tumor
%CD3+CD8+
Parental
Div1
Div2
Div3
Div4
Div5
Naïve
CA9
PSA
No MDSC
No MDSC +Peptide
Monocytic MDSC-Tumor
%CD3+CD8+
Parental
Divided Cells
Naïve
CA9
PSA
No MDSC
No MDSC +Peptide

Figure 22

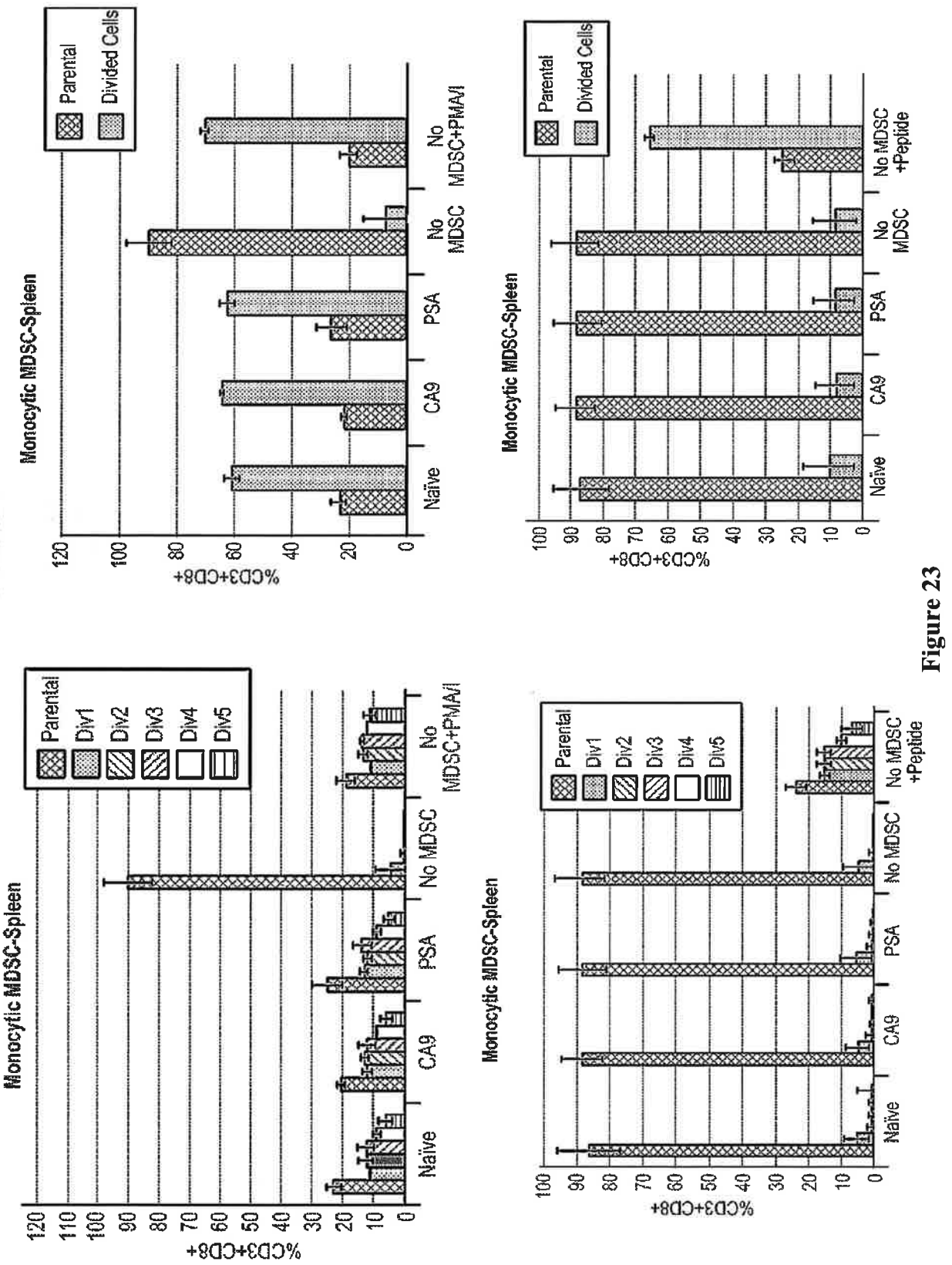

Monocytic MDSC-Spleen
Parental
Divided Cells
%CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC+PMA/I
No MDSC +Peptide
Div1
Div2
Div3
Div4
Div5

Figure 23

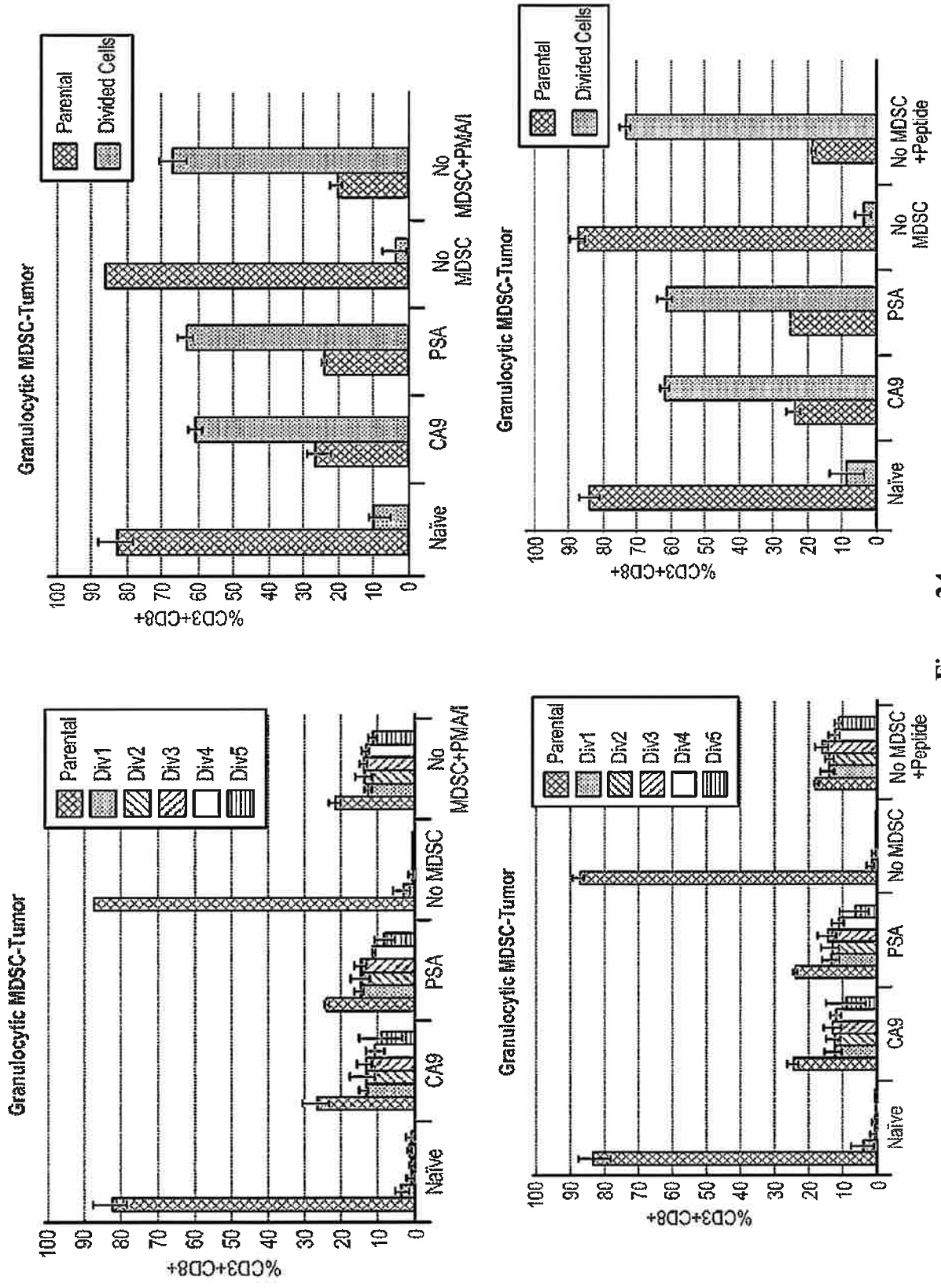

Granulocytic MDSC-Tumor
Parental
Divided Cells
%CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC+PMA/I
Granulocytic MDSC-Tumor
Parental
Divided Cells
%CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC +Peptide
Granulocytic MDSC-Tumor
Parental
Div1
Div2
Div3
Div4
Div5
%CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC+PMA/I
Granulocytic MDSC-Tumor
Parental
Div1
Div2
Div3
Div4
Div5
%CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC +Peptide

Figure 24

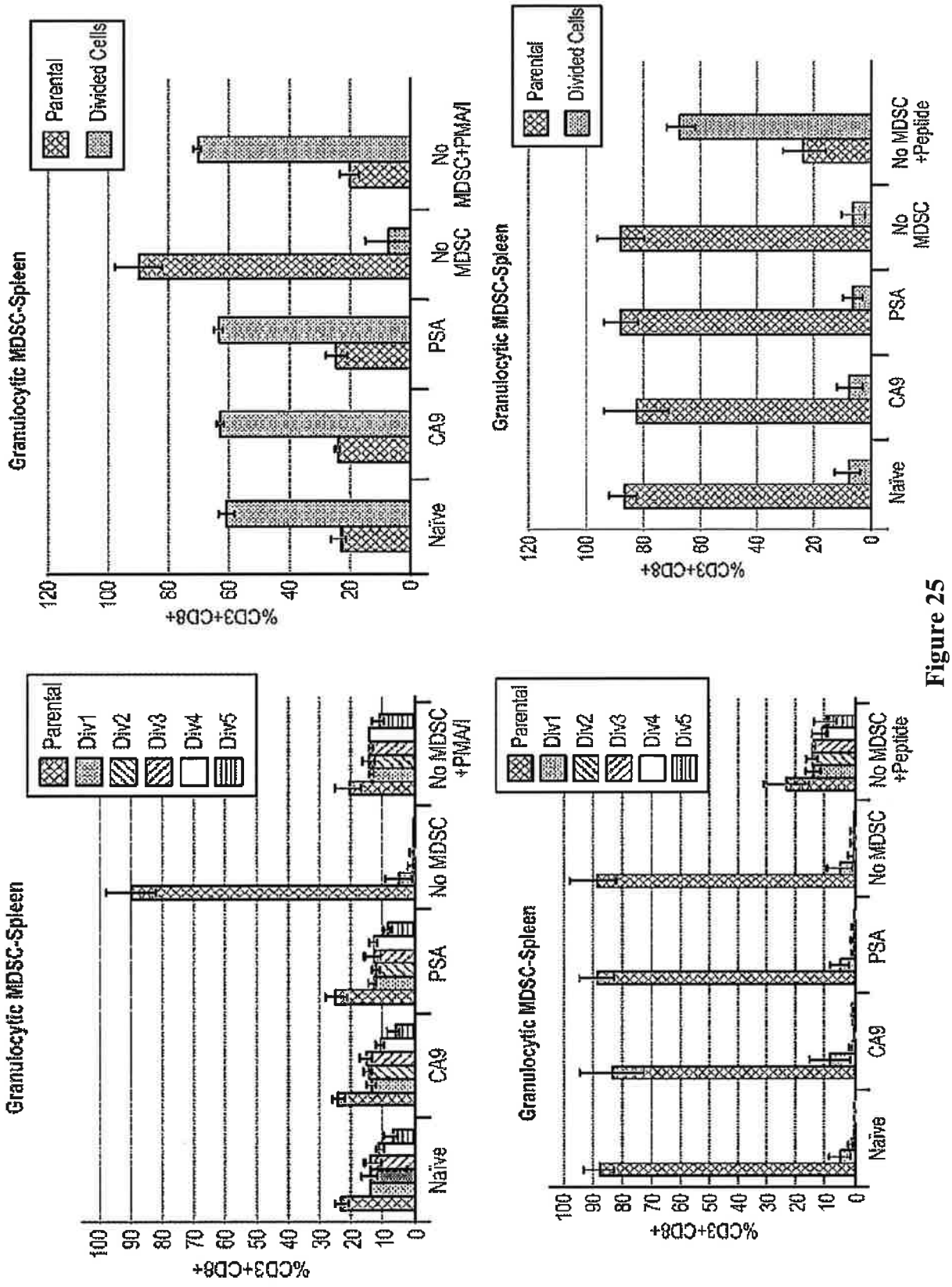

Granulocytic MDSC-Spleen
Parental
Divided Cells
%CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC+PMA/I
Granulocytic MDSC-Spleen
Parental
Divided Cells
%CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC +Peptide
Granulocytic MDSC-Spleen
Parental
Div1
Div2
Div3
Div4
Div5
%CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC +PMA/I
Granulocytic MDSC-Spleen
Parental
Div1
Div2
Div3
Div4
Div5
%CD3+CD8+
Naïve
CA9
PSA
No MDSC
No MDSC +Peptide

Figure 25

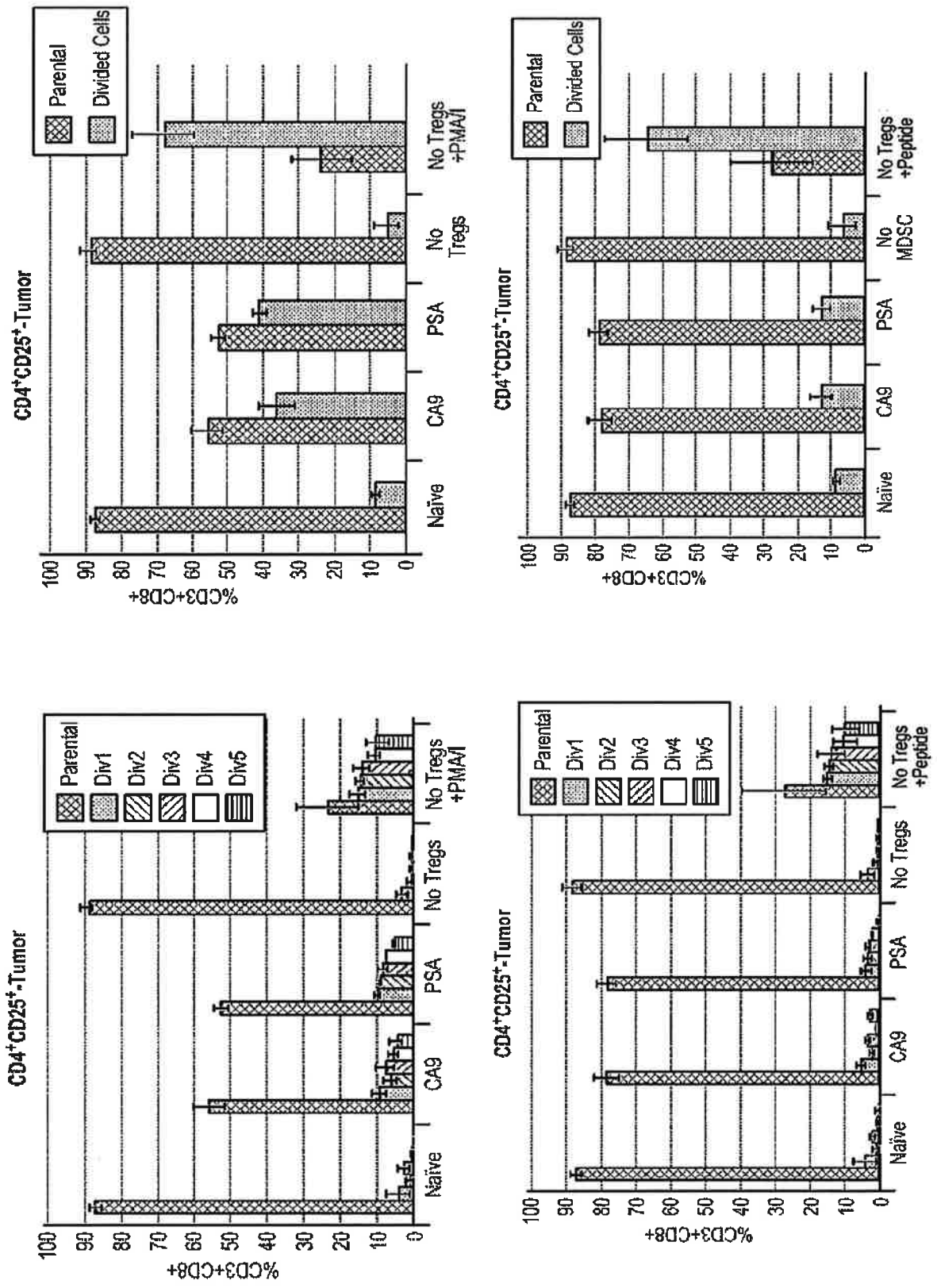

CD4+CD25+-Tumor
%CD3+CD8+
Parental
Divided Cells
Naïve
CA9
PSA
No Tregs
No MDSC
No Tregs +PMA/I
No Tregs +Peptide
Div1
Div2
Div3
Div4
Div5

Figure 26

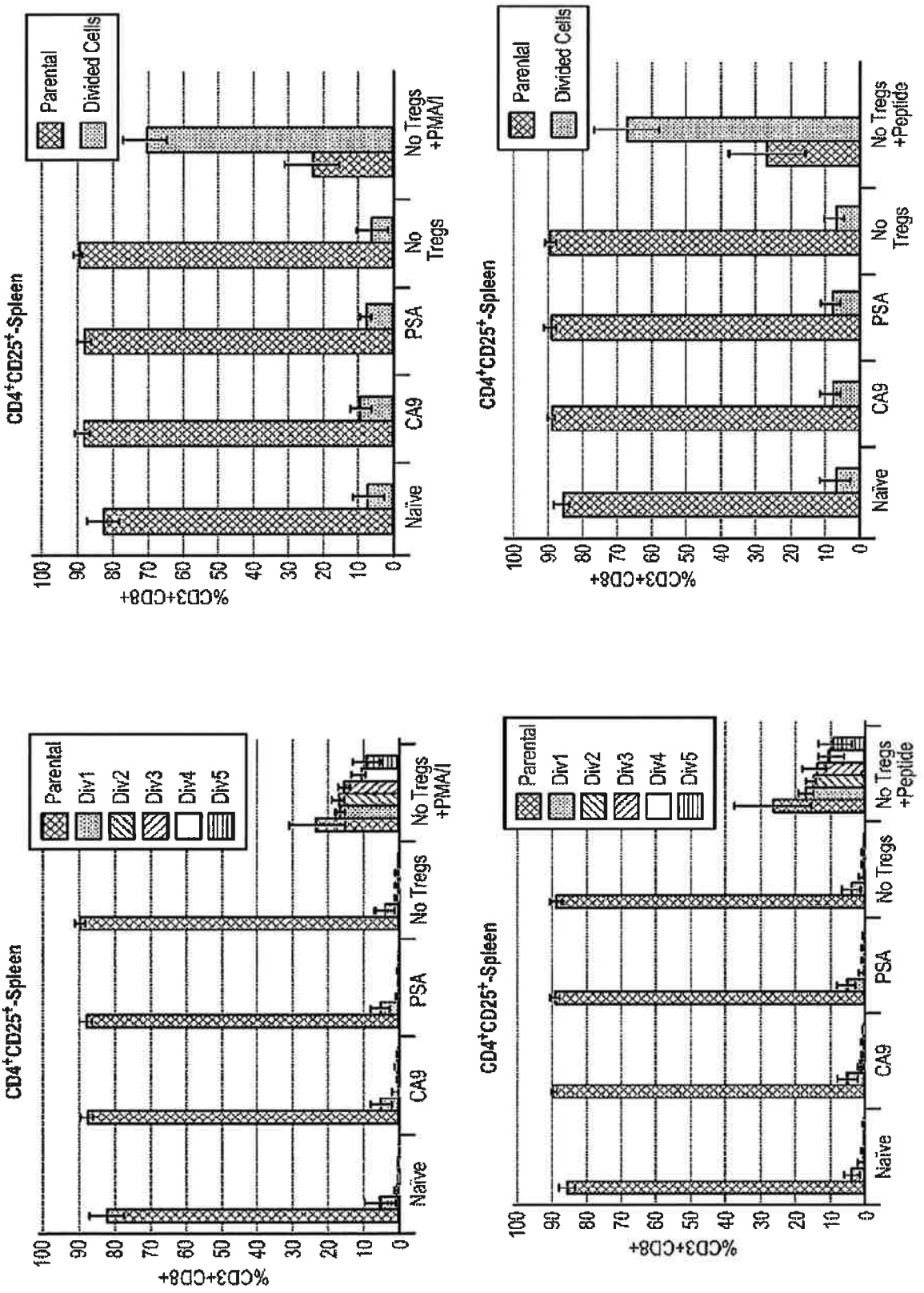

CD4+CD25+-Spleen
%CD3+CD8+
Parental
Divided Cells
Div1
Div2
Div3
Div4
Div5
Naïve
CA9
PSA
No Tregs
No Tregs +PMA/I
No Tregs +Peptide

Figure 27

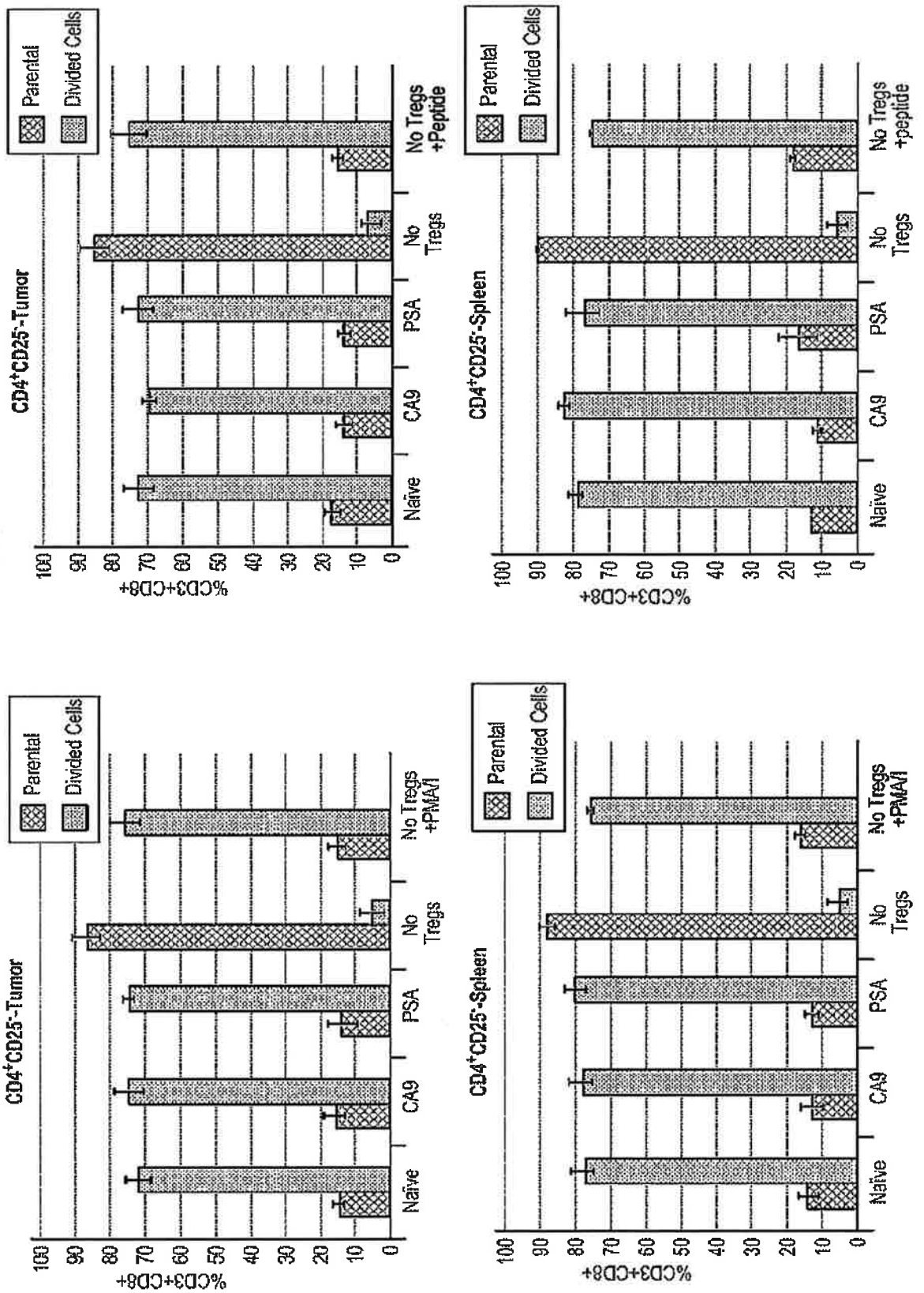

CD4+CD25-Tumor
CD4+CD25-Spleen
Parental
Divided Cells
%CD3+CD8+
100
90
80
70
60
50
40
30
20
10
0
Naive
CA9
PSA
No Tregs
No Tregs +Peptide
No Tregs +PMA/I
No Tregs +peptide

Figure 28

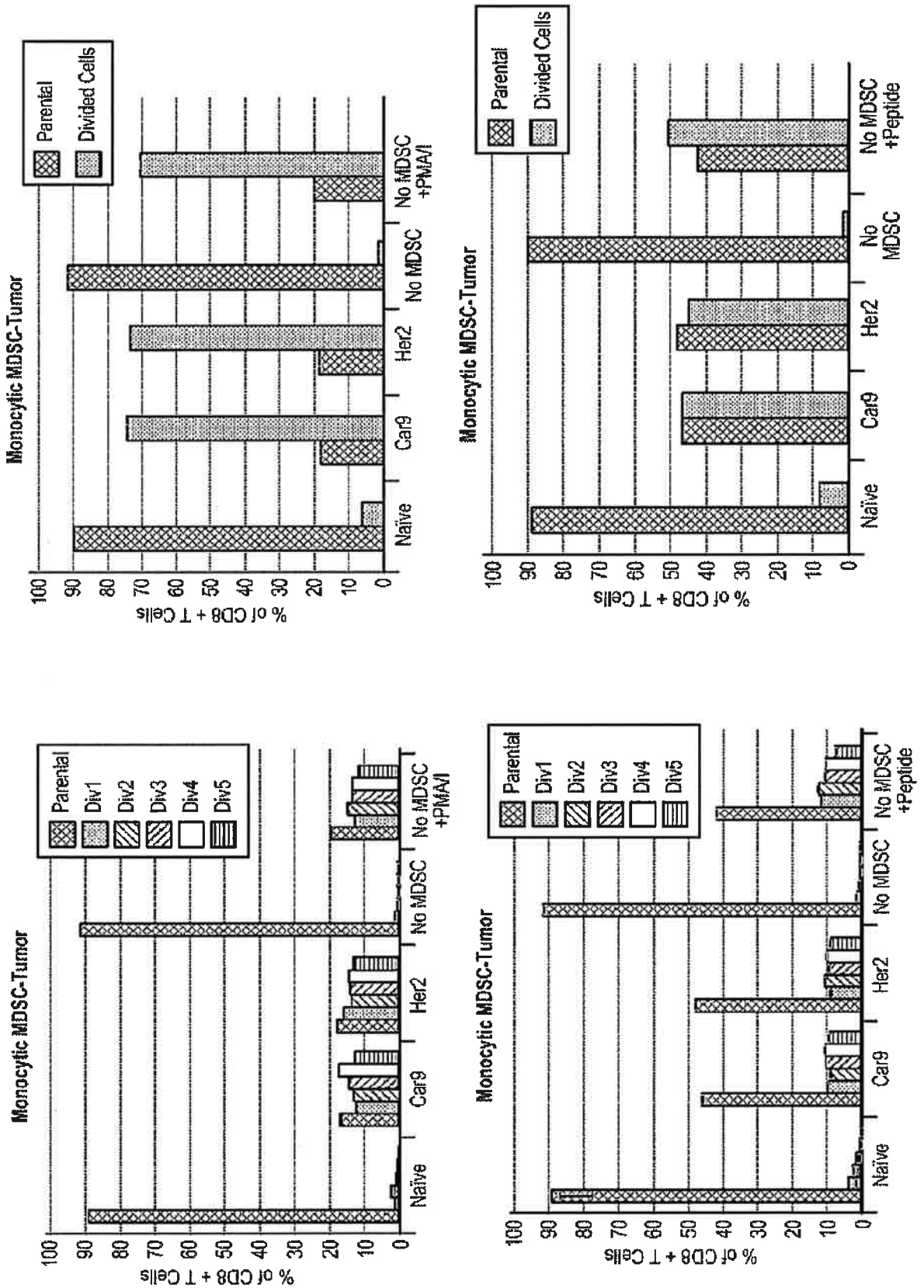

Monocytic MDSC-Tumor
Parental
Divided Cells
% of CD8 + T Cells
Naïve
Car9
Her2
No MDSC
No MDSC +PMA/I
No MDSC +Peptide
Div1
Div2
Div3
Div4
Div5

Figure 29

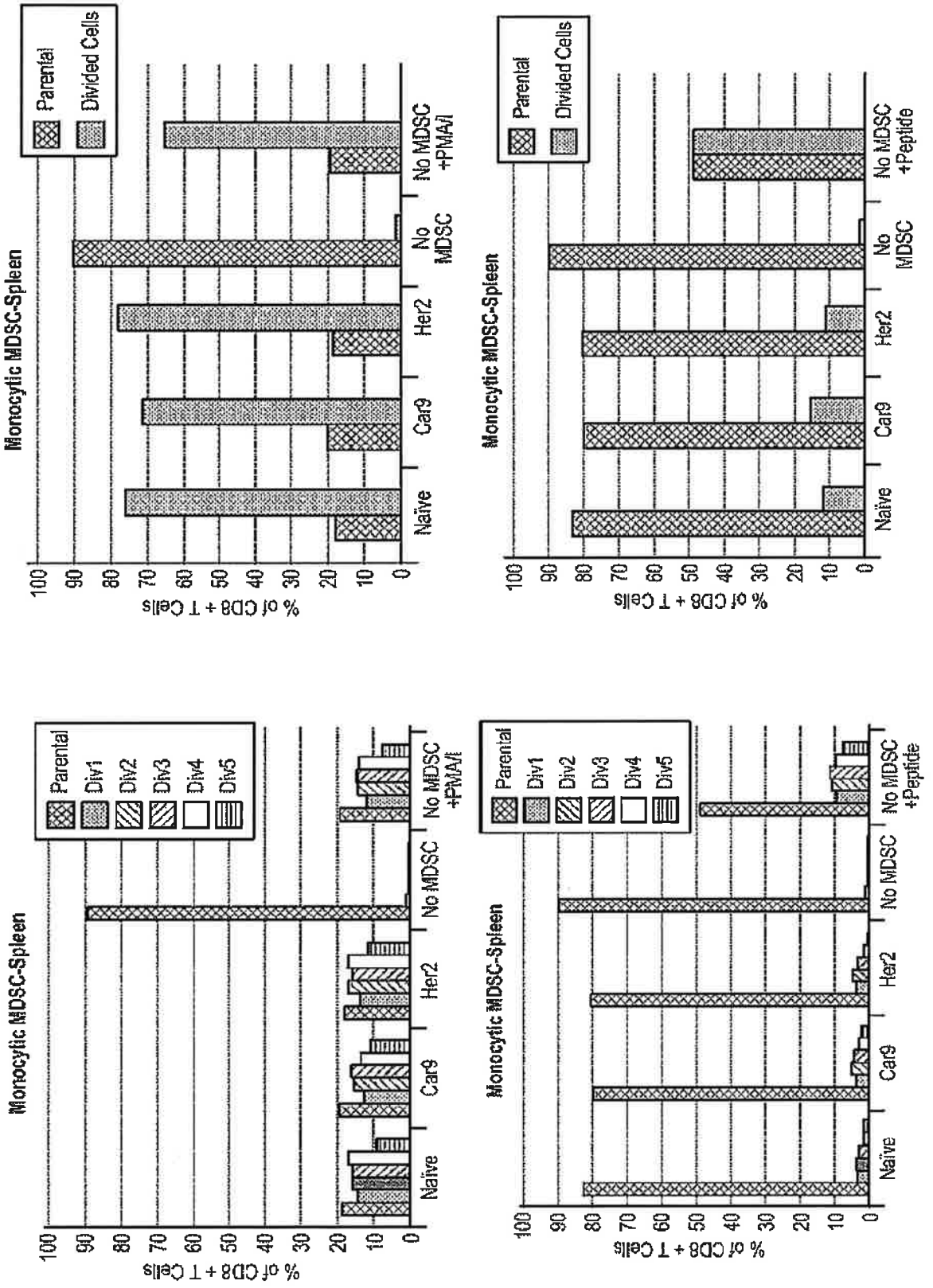

Monocytic MDSC-Spleen
Parental
Divided Cells
% of CD8 + T Cells
Naïve
Car9
Her2
No MDSC
No MDSC +PMA/I
No MDSC +Peptide
Div1
Div2
Div3
Div4
Div5

Figure 30

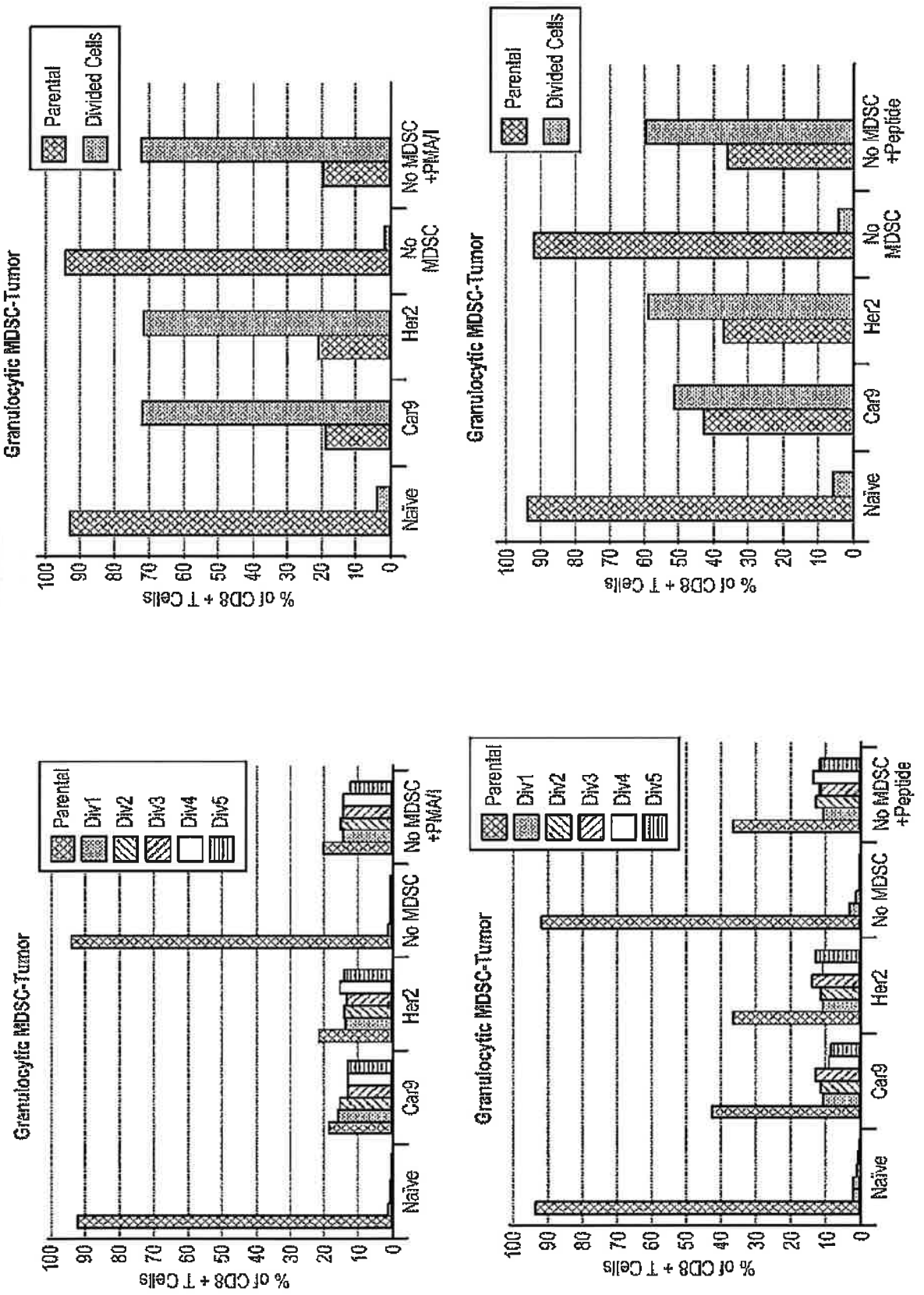

Granulocytic MDSC-Tumor
Parental
Divided Cells
% of CD8 + T Cells
Naïve
Car9
Her2
No MDSC
No MDSC +PMA/I
No MDSC +Peptide
Div1
Div2
Div3
Div4
Div5

Figure 31

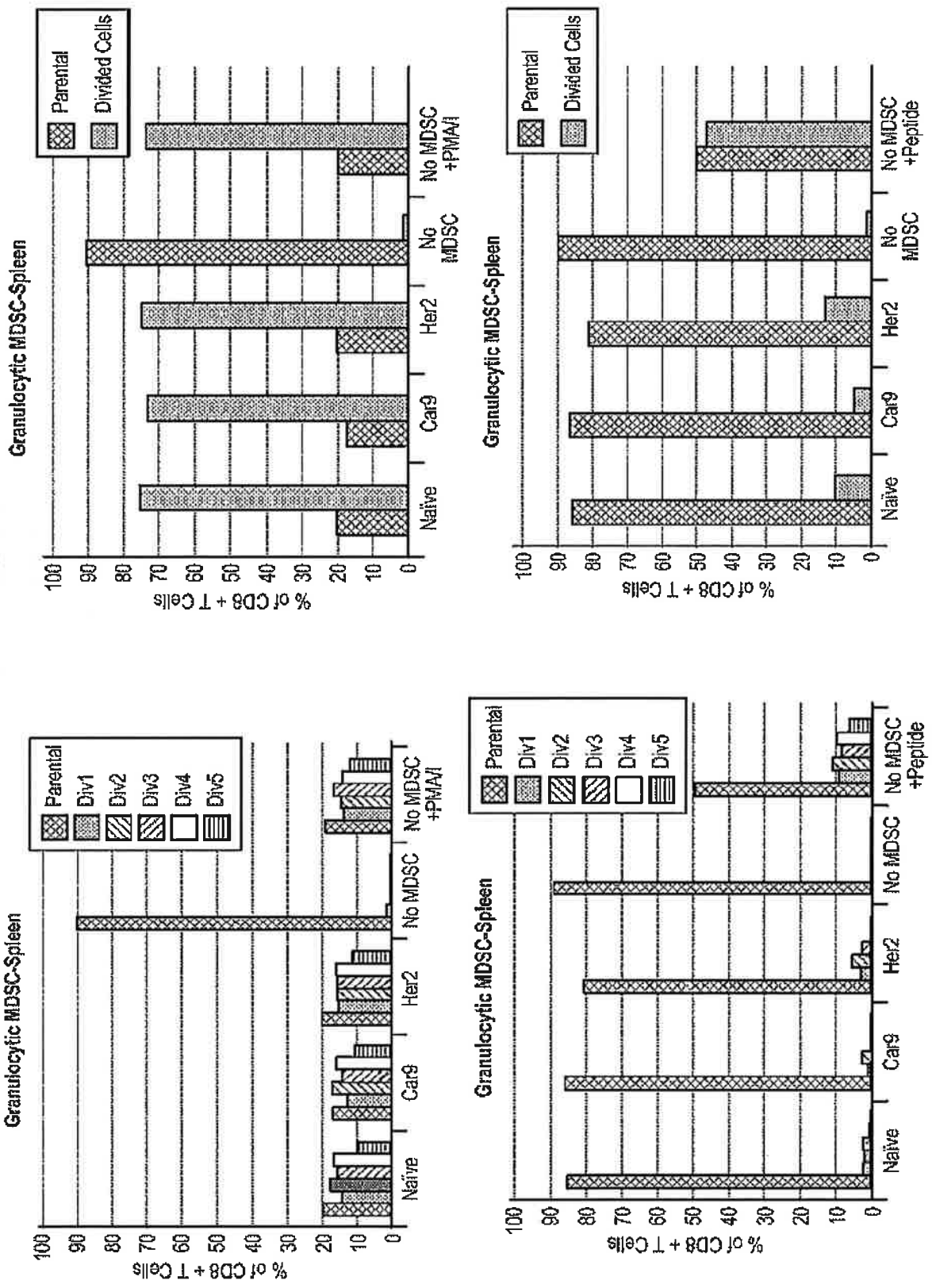

Granulocytic MDSC-Spleen
Parental
Divided Cells
% of CD8 + T Cells
Naïve
Car9
Her2
No MDSC
No MDSC +PMA/I
Granulocytic MDSC-Spleen
Parental
Divided Cells
% of CD8 + T Cells
Naïve
Car9
Her2
No MDSC
No MDSC +Peptide
Granulocytic MDSC-Spleen
Parental
Div1
Div2
Div3
Div4
Div5
% of CD8 + T Cells
Naïve
Car9
Her2
No MDSC
No MDSC +PMA/I
Granulocytic MDSC-Spleen
Parental
Div1
Div2
Div3
Div4
Div5
% of CD8 + T Cells
Naïve
Car9
Her2
No MDSC
No MDSC +Peptide

Figure 32

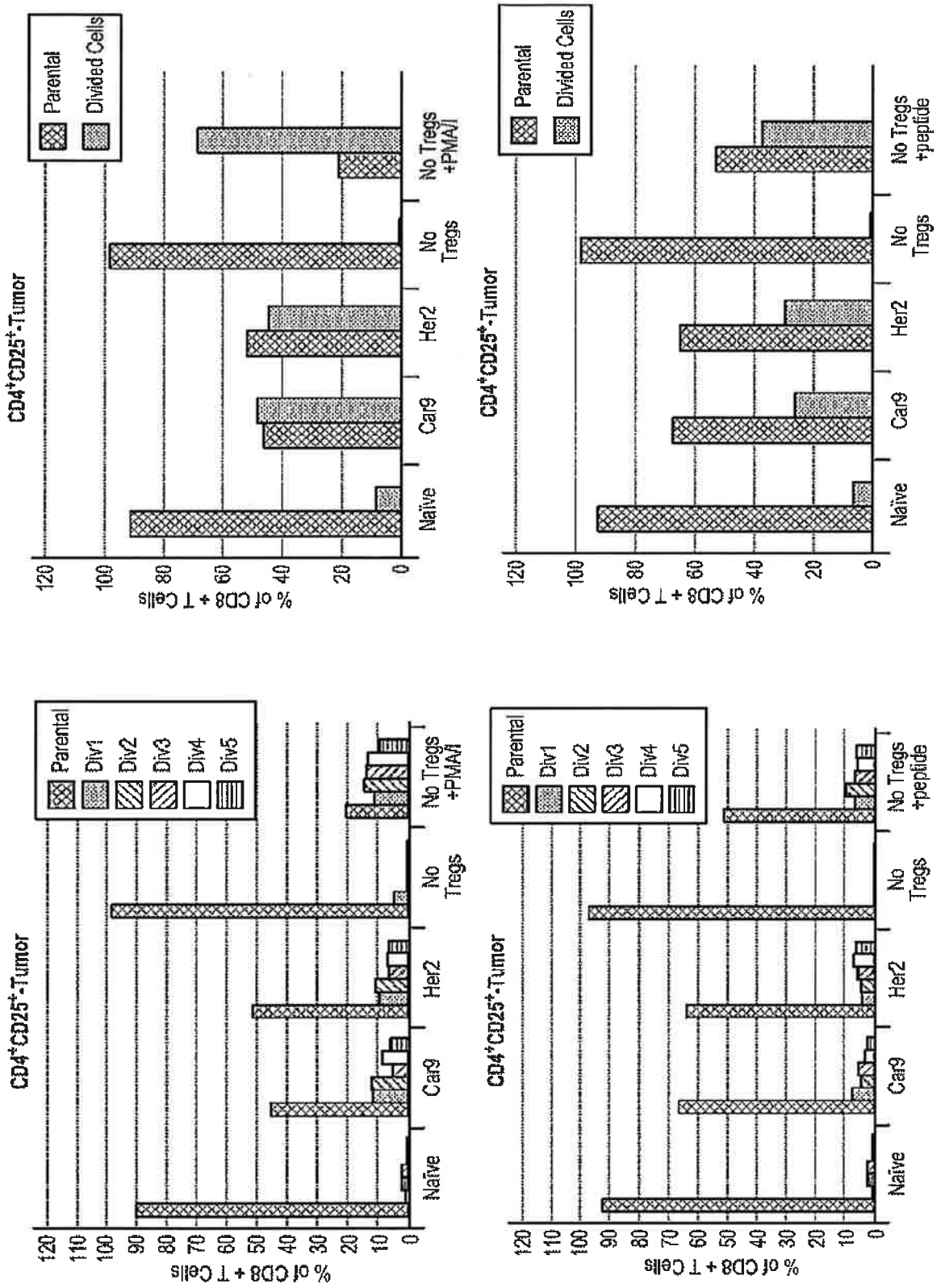

CD4+CD25+-Tumor
Parental
Divided Cells
% of CD8 + T Cells
120
100
80
60
40
20
0
Naive
Car9
Her2
No Tregs
No Tregs +PMA/I
CD4+CD25+-Tumor
Parental
Div1
Div2
Div3
Div4
Div5
% of CD8 + T Cells
120
110
100
90
80
70
60
50
40
30
20
10
0
Naive
Car9
Her2
No Tregs
No Tregs +PMA/I
CD4+CD25+-Tumor
Parental
Divided Cells
% of CD8 + T Cells
120
100
80
60
40
20
0
Naive
Car9
Her2
No Tregs
No Tregs +peptide
CD4+CD25+-Tumor
Parental
Div1
Div2
Div3
Div4
Div5
% of CD8 + T Cells
120
110
100
90
80
70
60
50
40
30
20
10
0
Naive
Car9
Her2
No Tregs
No Tregs +peptide

Figure 33

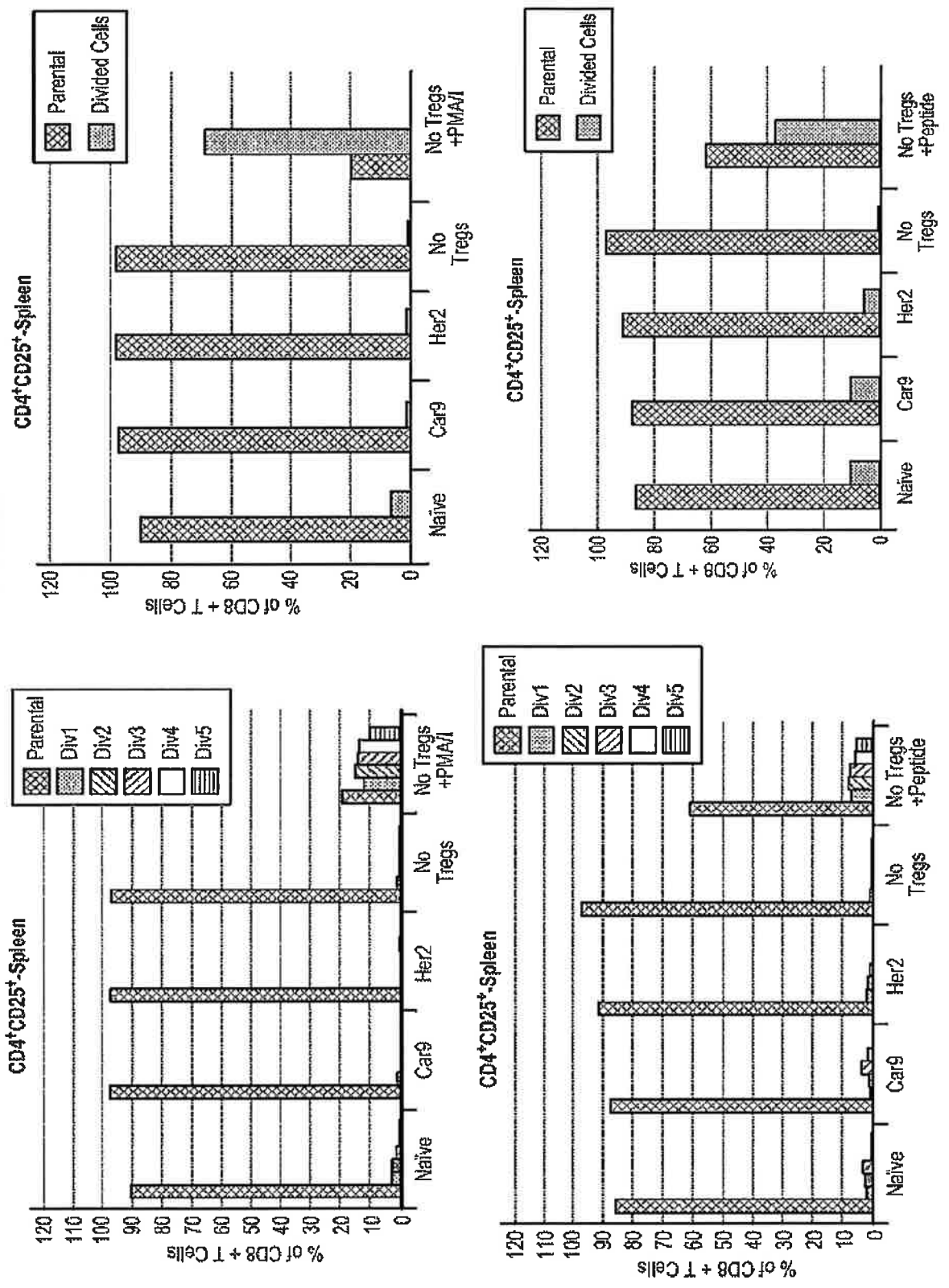

CD4+CD25+-Spleen
% of CD8 + T Cells
Parental
Divided Cells
Div1
Div2
Div3
Div4
Div5
Naive
Car9
Her2
No Tregs
No Tregs +PMA/I
No Tregs +Peptide

Figure 34