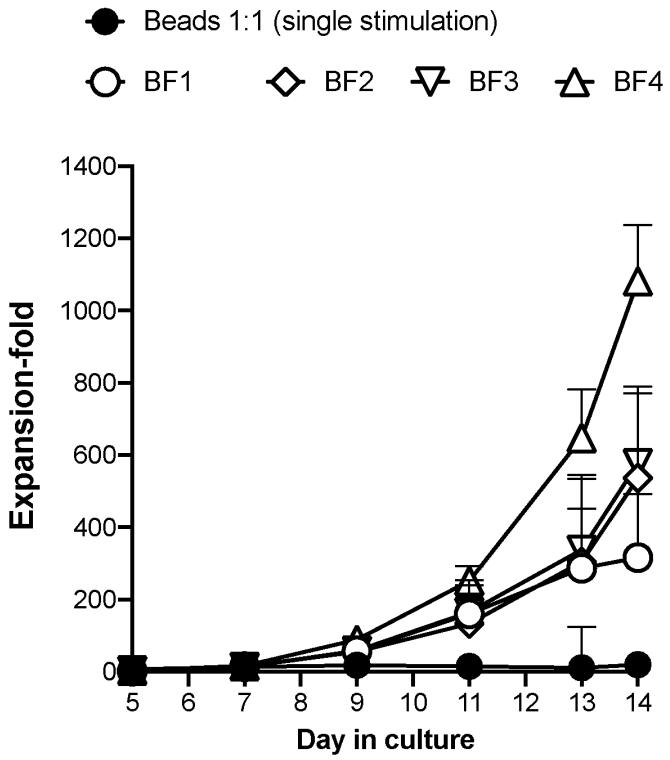

Beads 1:1 (single stimulation)
BF1
BF2
BF3
BF4
Expansion-fold
1400
1200
1000
800
600
400
200
0
5
6
7
8
9
10
11
12
13
14
Day in culture

FIG. 1

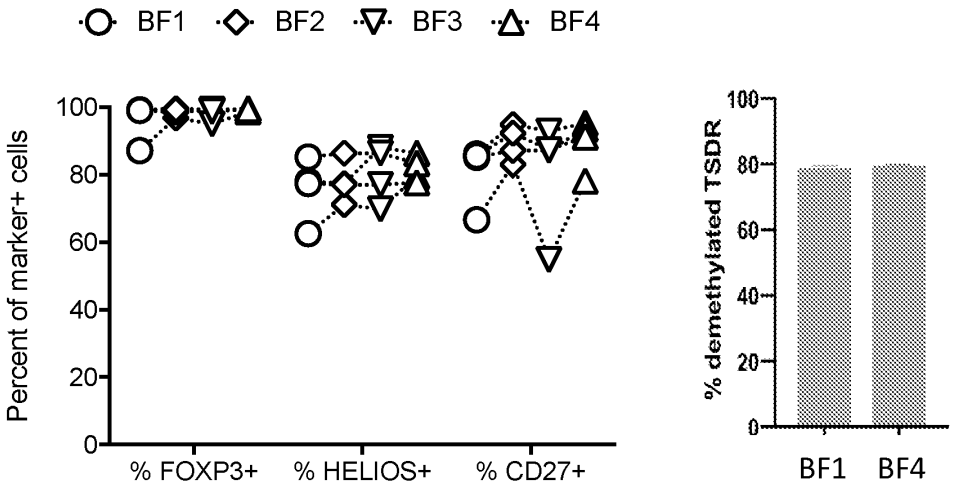

BF1
BF2
BF3
BF4
Percent of marker+ cells
100
80
60
40
20
0
% FOXP3+
% HELIOS+
% CD27+
% demethylated TSDR
100
80
60
40
20
0
BF1
BF4

FIG. 2

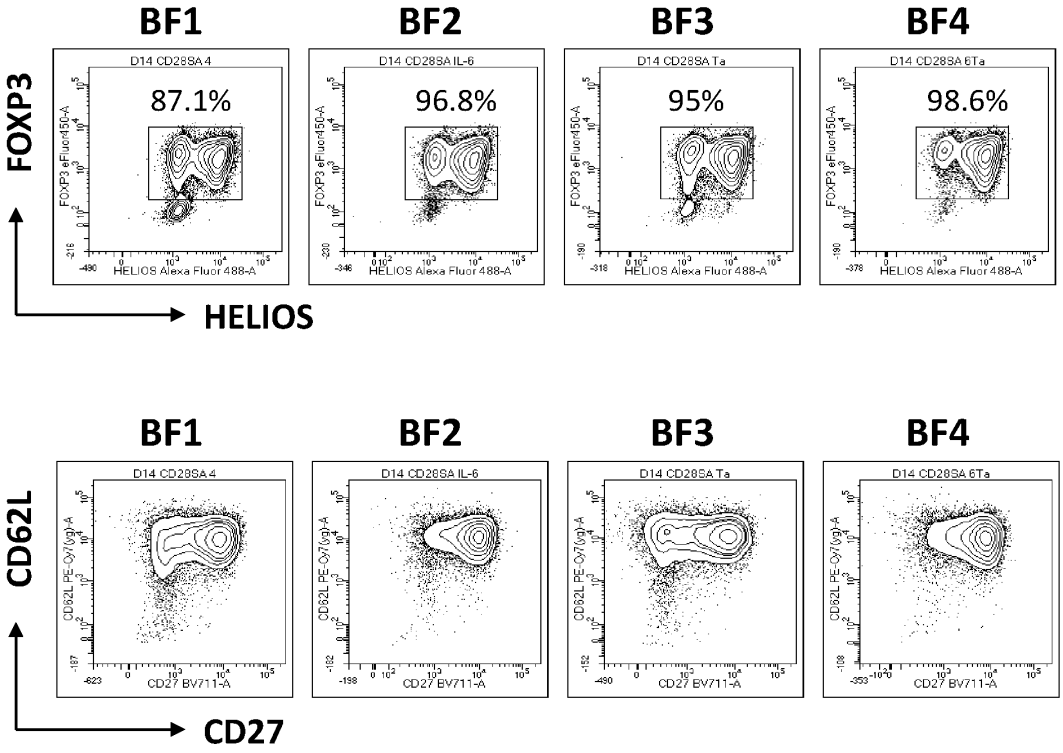

BF1
BF2
BF3
BF4
FOXP3
HELIOS
D14 CD28SA 4
87.1%
D14 CD28SA IL-6
96.8%
D14 CD28SA Ta
95%
D14 CD28SA 6Ta
98.6%
FOXP3 eFluor450-A
HELIOS Alexa Fluor 488-A
CD62L
CD27
CD62L PE-Cy7(vg)-A
CD27 BV711-A

FIG. 3

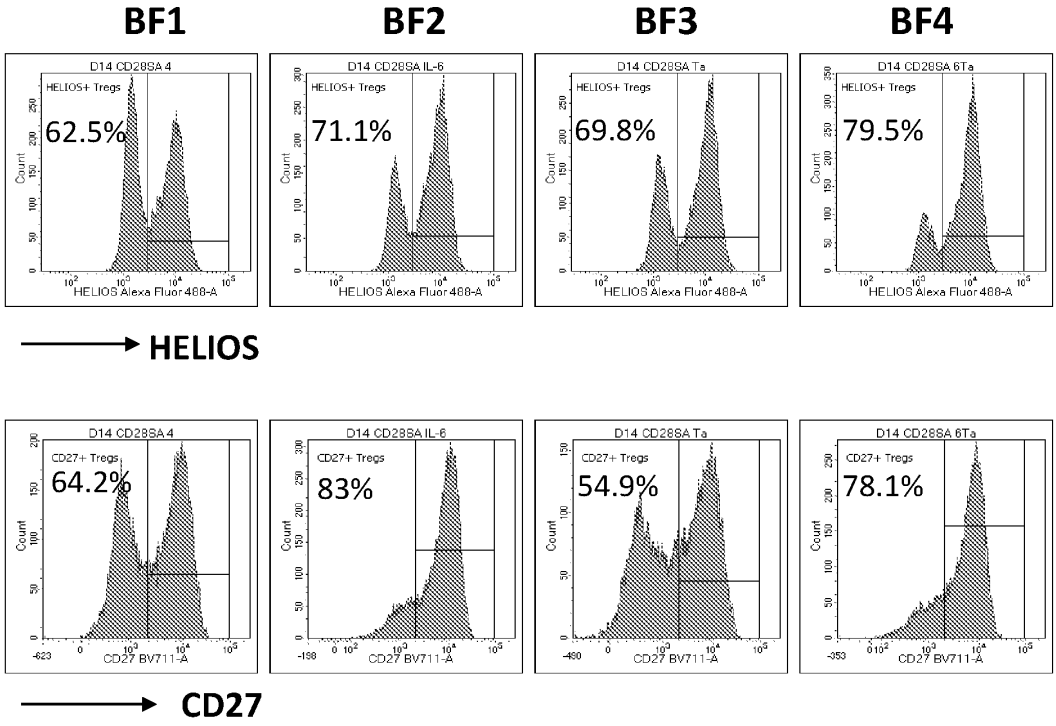

BF1
BF2
BF3
BF4
D14 CD28SA 4
HELIOS+ Tregs
62.5%
D14 CD28SA IL-6
71.1%
D14 CD28SA Ta
69.8%
D14 CD28SA 6Ta
79.5%
Count
HELIOS Alexa Fluor 488-A
HELIOS
CD27+ Tregs
64.2%
83%
54.9%
78.1%
CD27 BV711-A
CD27

FIG. 4

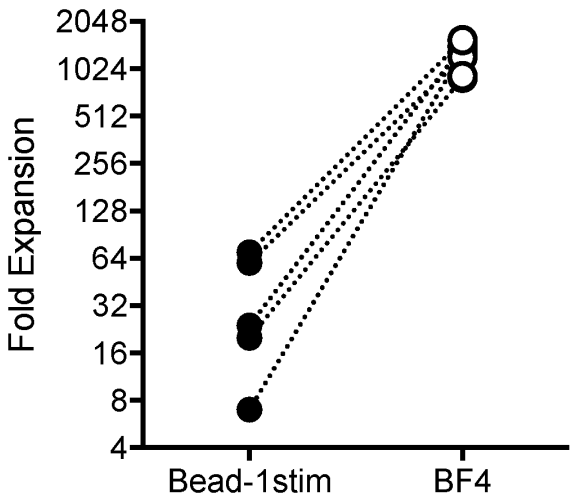

2048
1024
512
256
128
64
32
16
8
4
Fold Expansion
Bead-1stim
BF4

FIG. 5

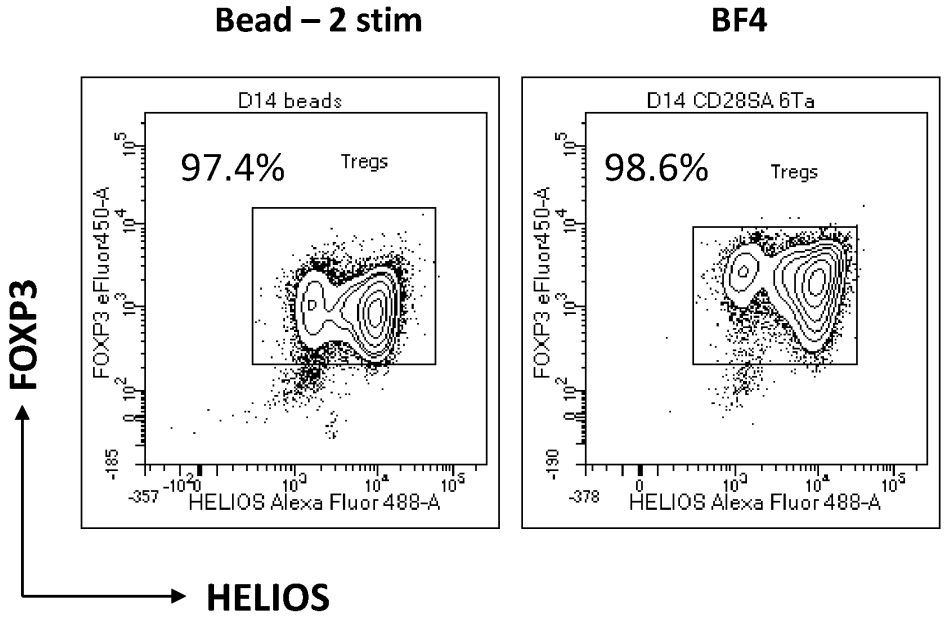

Bead – 2 stim
BF4
D14 beads
97.4%
Tregs
D14 CD28SA 6Ta
98.6%
Tregs
FOXP3 eFluor450-A
HELIOS Alexa Fluor 488-A
FOXP3
HELIOS

FIG. 6

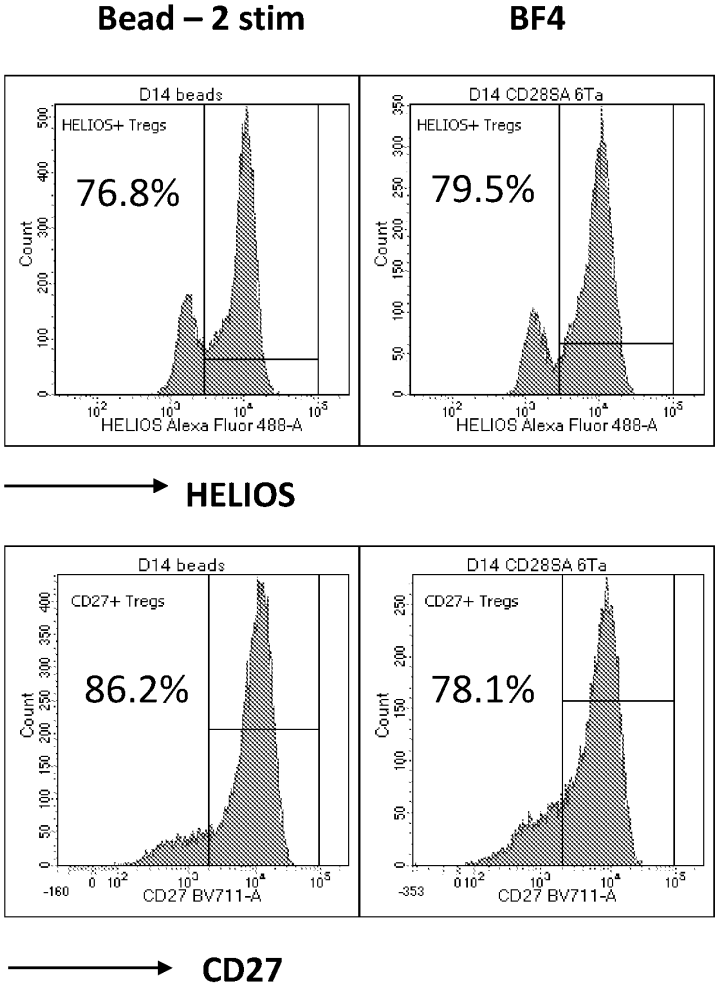

Bead – 2 stim
BF4
D14 beads
HELIOS+ Tregs
76.8%
Count
HELIOS Alexa Fluor 488-A
D14 CD28SA 6Ta
HELIOS+ Tregs
79.5%
Count
HELIOS Alexa Fluor 488-A
HELIOS
D14 beads
CD27+ Tregs
86.2%
Count
CD27 BV711-A
D14 CD28SA 6Ta
CD27+ Tregs
78.1%
Count
CD27 BV711-A
CD27

FIG. 7

FIG. 8A

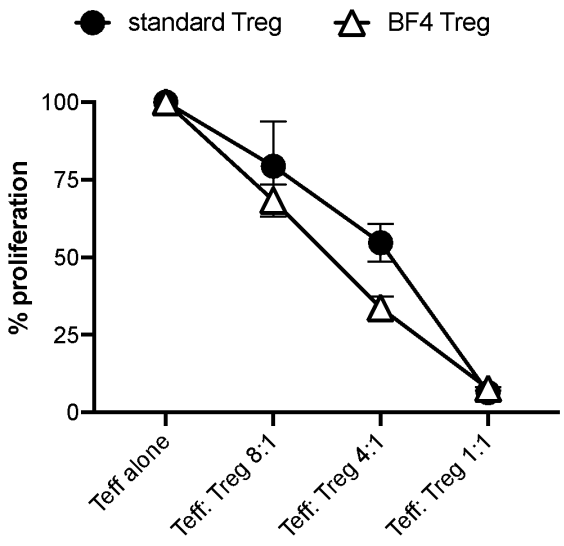
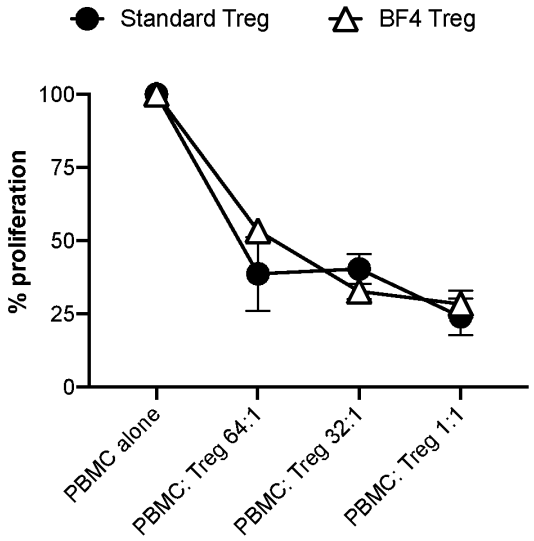

standard Treg
BF4 Treg
% proliferation
100
75
50
25
0
Teff alone
Teff: Treg 8:1
Teff: Treg 4:1
Teff: Treg 1:1

FIG. 8B


Standard Treg
BF4 Treg
% proliferation
100
75
50
25
0
PBMC alone
PBMC: Treg 64:1
PBMC: Treg 32:1
PBMC: Treg 1:1

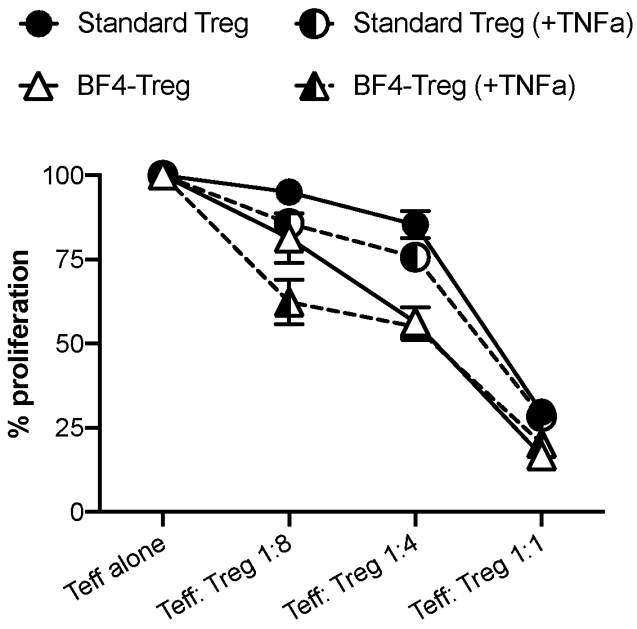

Standard Treg
Standard Treg (+TNFa)
BF4-Treg
BF4-Treg (+TNFa)
% proliferation
100
75
50
25
0
Teff alone
Teff: Treg 1:8
Teff: Treg 1:4
Teff: Treg 1:1

FIG. 9

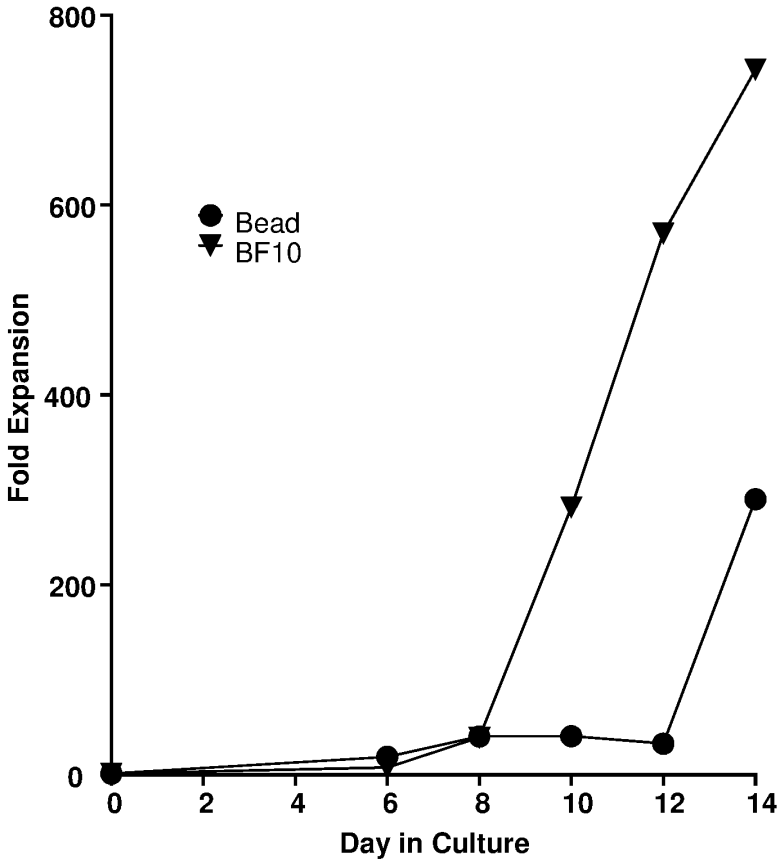

800
600
400
200
0
Fold Expansion
Bead
BF10
0
2
4
6
8
10
12
14
Day in Culture

FIG. 10