FIG. 1A-B

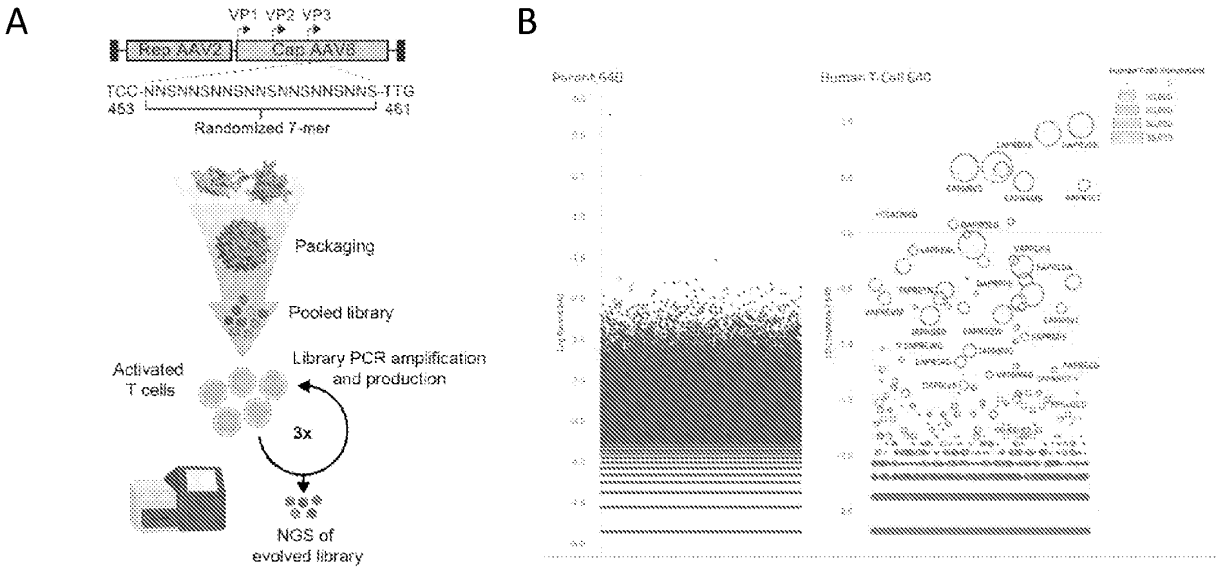

A
VP1 VP2 VP3
Rep AAV2
Cap AAV6
TCC-NNSNNSNNSNNSNNSNNSNNS-TTG
453
461
Randomized 7-mer
Packaging
Pooled library
Activated T cells
Library PCR amplification and production
3x
NGS of evolved library
B

FIG. 2

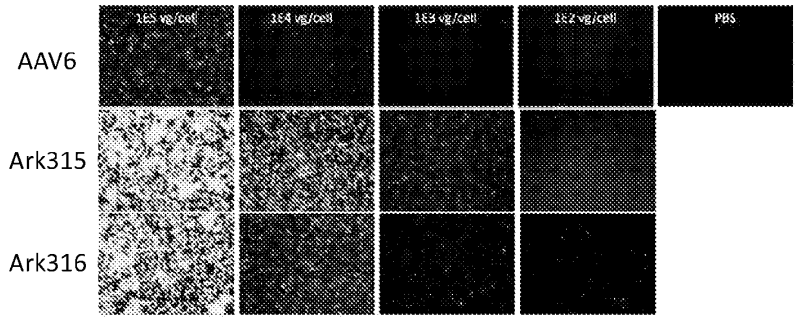


FIG. 3

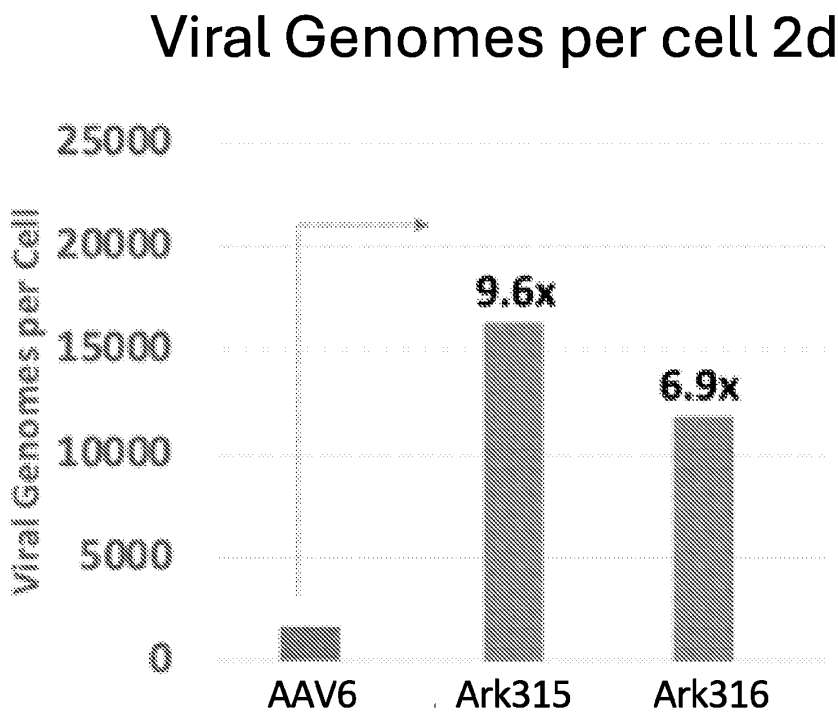
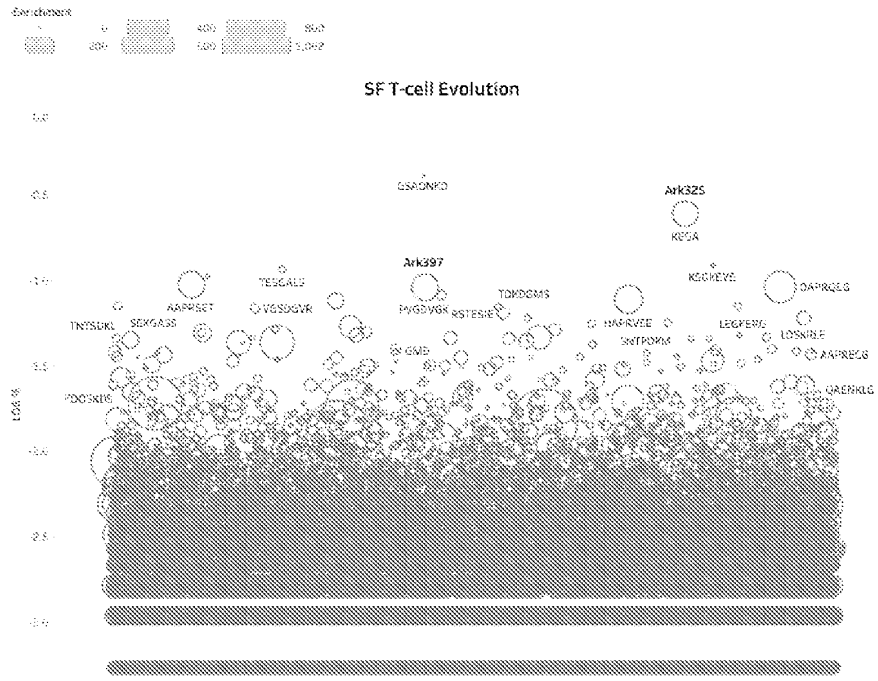
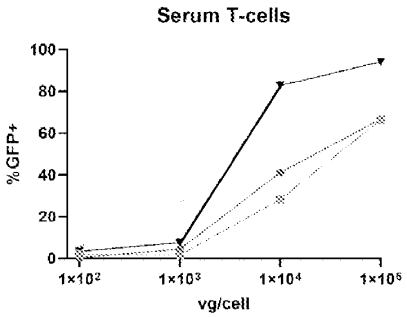

Viral Genomes per cell 2dpi
Viral Genomes per Cell
25000
20000
15000
10000
5000
0
9.6x
6.9x
AAV6
Ark315
Ark316

FIG 4A-C

A)


SF T-cell Evolution
Ark325
Ark397

B)


Serum T-cells
% GFP+
vg/cell
1×10²
1×10³
1×10⁴
1×10⁵

C)

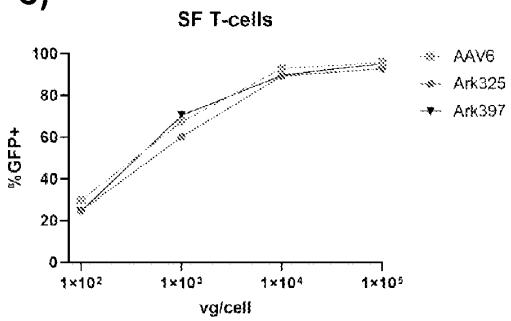

SF T-cells
% GFP+
vg/cell
AAV6
Ark325
Ark397

FIG. 5

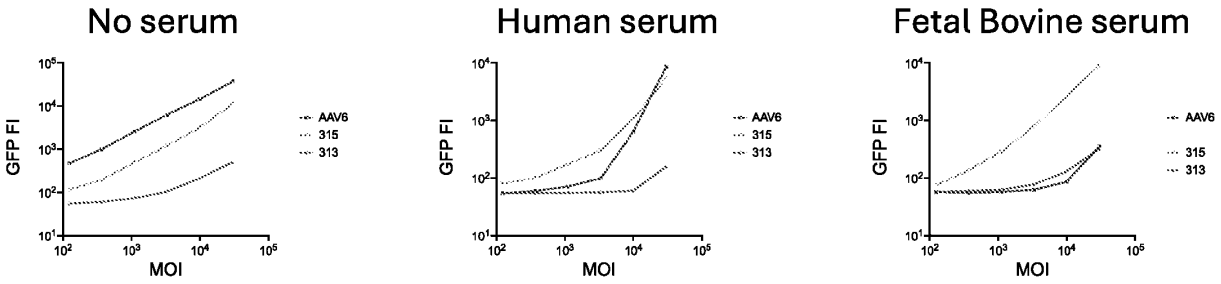

No serum
Human serum
Fetal Bovine serum
GFP FI
MOI
AAV6
315
313

FIG. 6A

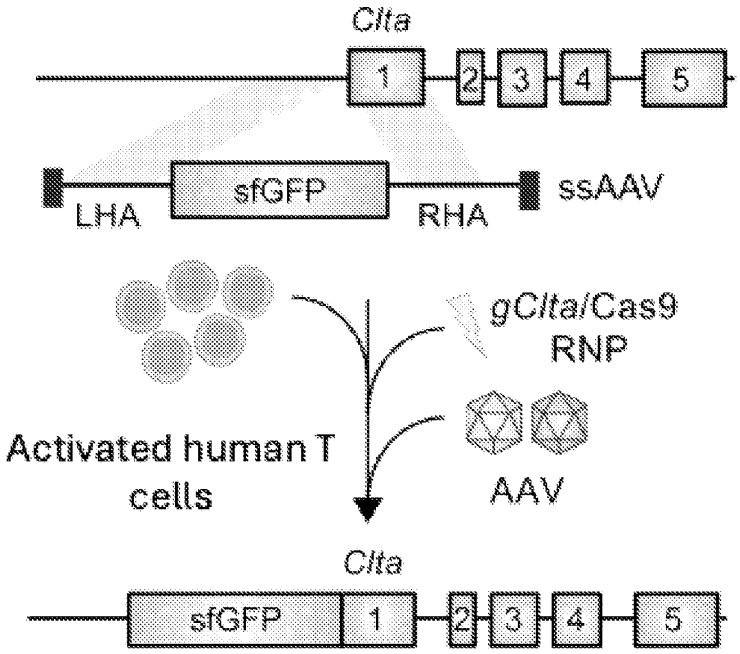

Clta
1
2
3
4
5
sfGFP
LHA
RHA
ssAAV
gClta/Cas9
RNP
Activated human T
cells
AAV
Clta
sfGFP
1
2
3
4
5

FIG. 6B

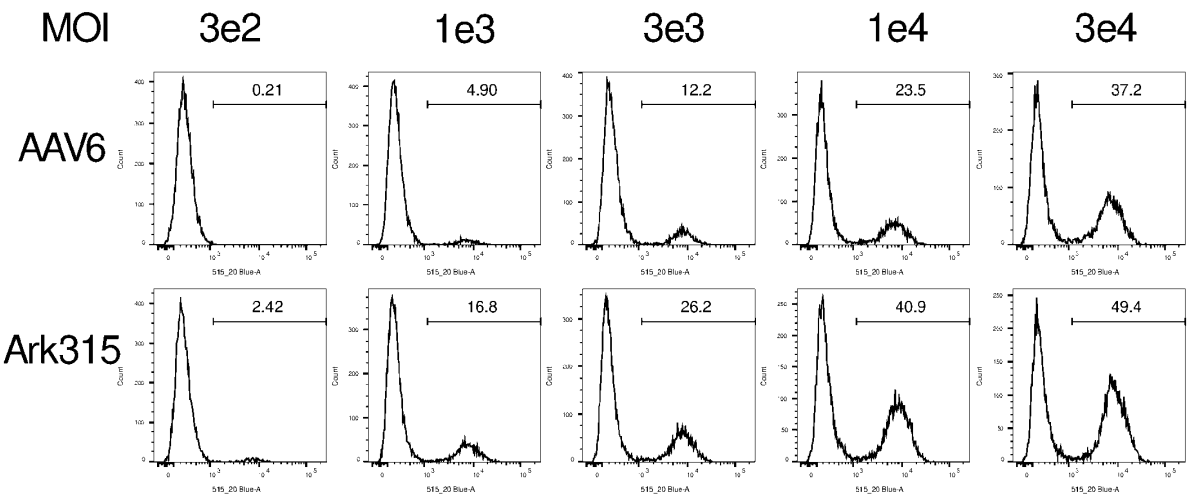
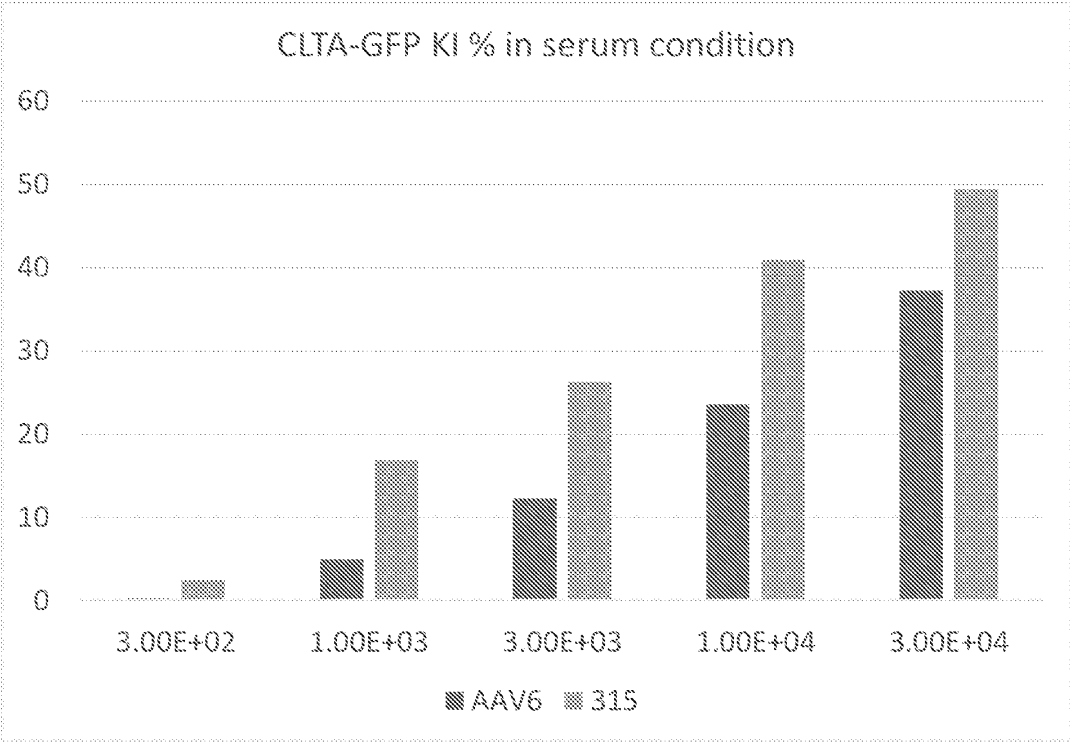

MOI
3e2
1e3
3e3
1e4
3e4
AAV6
Ark315
0.21
4.90
12.2
23.5
37.2
2.42
16.8
26.2
40.9
49.4
Count
515_20 Blue-A

FIG. 6C


CLTA-GFP KI % in serum condition
60
50
40
30
20
10
0
3.00E+02
1.00E+03
3.00E+03
1.00E+04
3.00E+04
AAV6
315