FIG. 1

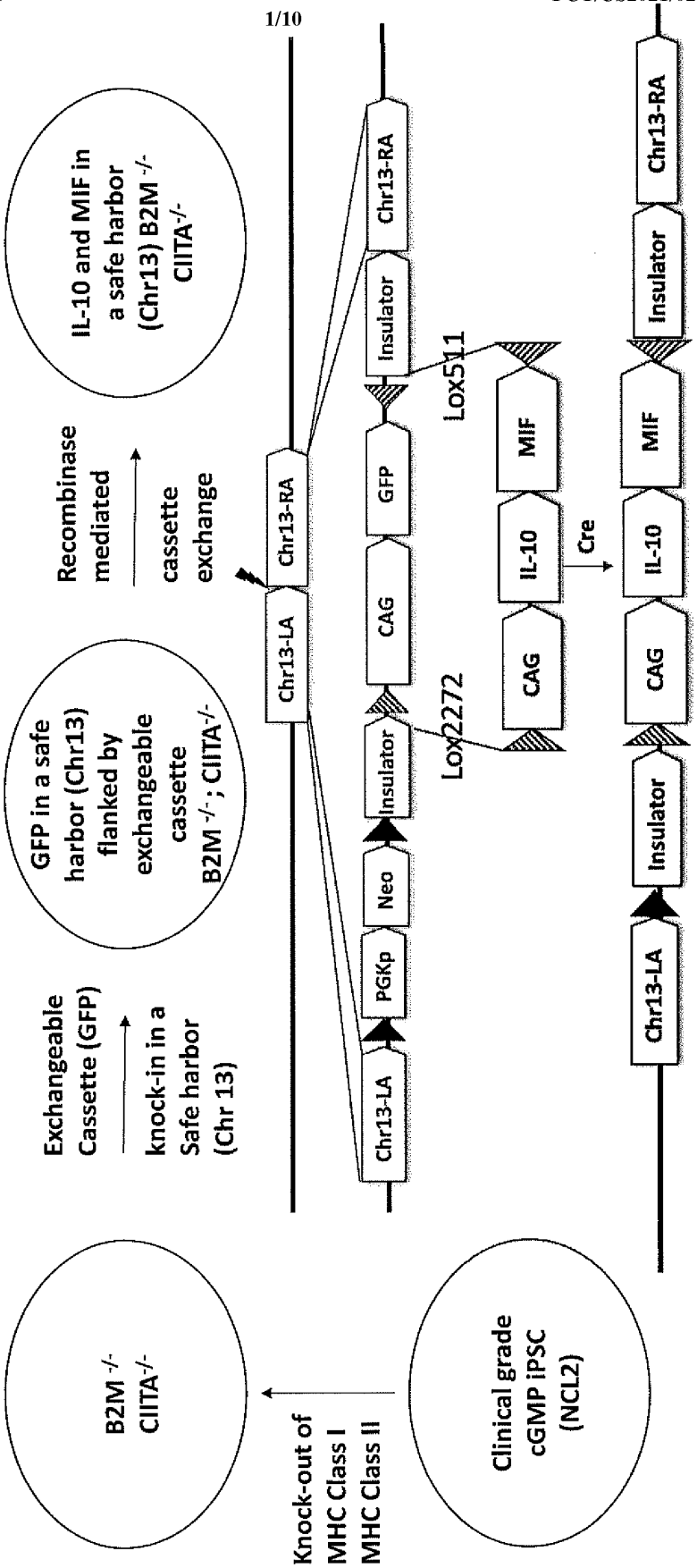

B2M -/-
CIITA-/-
Knock-out of
MHC Class I
MHC Class II
Clinical grade
cGMP iPSC
(NCL2)
Exchangeable
Cassette (GFP)
knock-in in a
Safe harbor
(Chr 13)
GFP in a safe
harbor (Chr13)
flanked by
exchangeable
cassette
B2M -/- ; CIITA-/-
Recombinase
mediated
cassette
exchange
IL-10 and MIF in
a safe harbor
(Chr13) B2M -/-
CIITA-/-
Chr13-LA
PGKp
Neo
Insulator
CAG
GFP
Chr13-RA
Lox2272
Lox511
CAG
IL-10
MIF
Insulator
Cre
Chr13-LA
Insulator
CAG
IL-10
MIF
Insulator
Chr13-RA

FIG. 2A

Gene Name:	B2M
Transcript ID	ENST00000303088.8
Guide RNA 1 Sequence:	GGCCGAGAUGUCUCGCUCCG (SEQ ID NO:3)
Guide RNA 2 Sequence:	ACUCACGCUGGAUAGCCUCC (SEQ ID NO:4)
Guide RNA 3 Sequence:	CGGAGCGAGAGAGCACAGCG (SEQ ID NO:5)

PCR & Sequencing Primers:

FOR primer (5'-3'):	ACAGCAAACTCACCCAGTCTAG (SEQ ID NO:6)
REV primer (5'-3'):	CCAGTCTAAGGGAAGCAGAGC (SEQ ID NO:7)
GC Enhancer Used:	N/A
Sequencing Primer Used:	AAACTCACCCAGTCTAGTGC (SEQ ID NO:8)

FIG. 2B

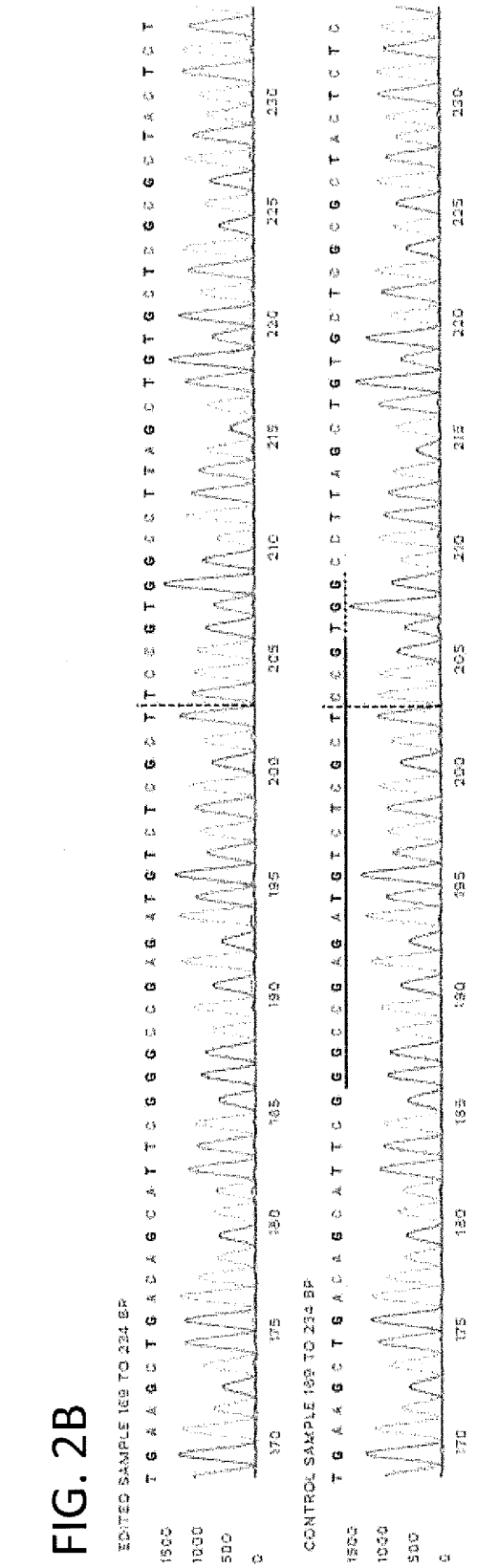


FIG. 2C

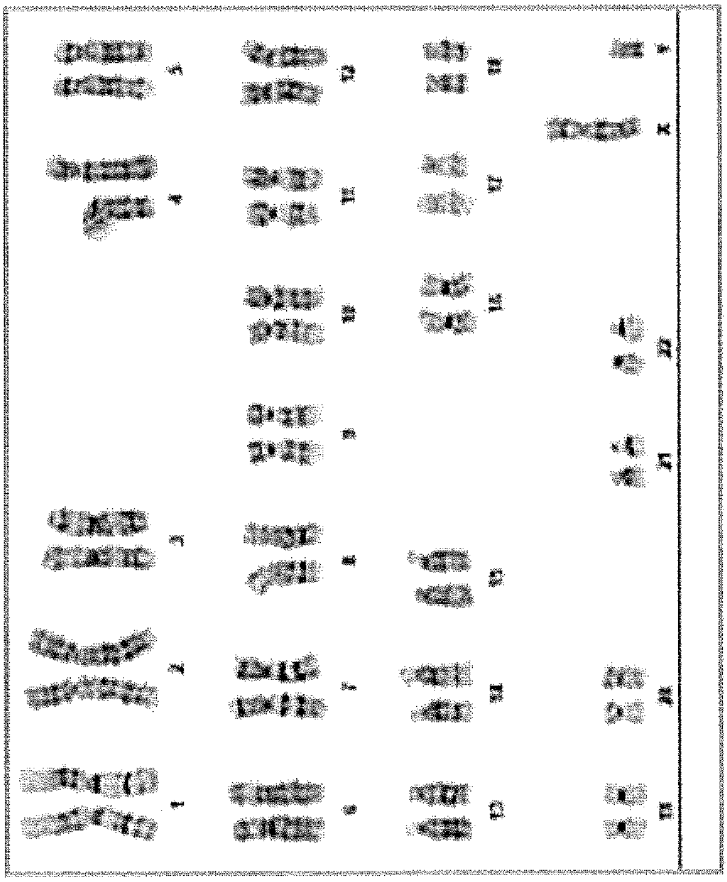


FIG. 3A

Gene Name:	CIITA
Transcript ID	ENST00000324288.12
Guide RNA 1 Sequence:	CACAGCUGAGCCCCCCACUG
Guide RNA 2 Sequence:	GGCUCCUGGUUGAACAGCGC
Guide RNA 3 Sequence:	CCCCUAACAUACUGGGAAUC
PCR & Sequencing Primers:	
FOR primer (5'-3'):	TGAGAGCTTGGGGTCCCTTA
REV primer (5'-3'):	CTGAGGCATGTTCTCTGCCA
GC Enhancer Used:	N/A
Sequencing Primer Used:	GGTAGGGGCTTGGAGCTAAC

FIG. 3B

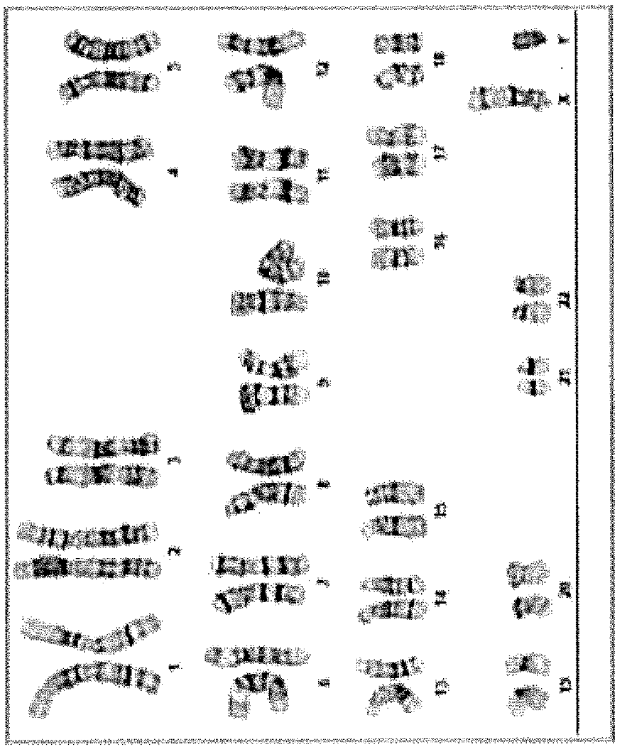


FIG. 4A

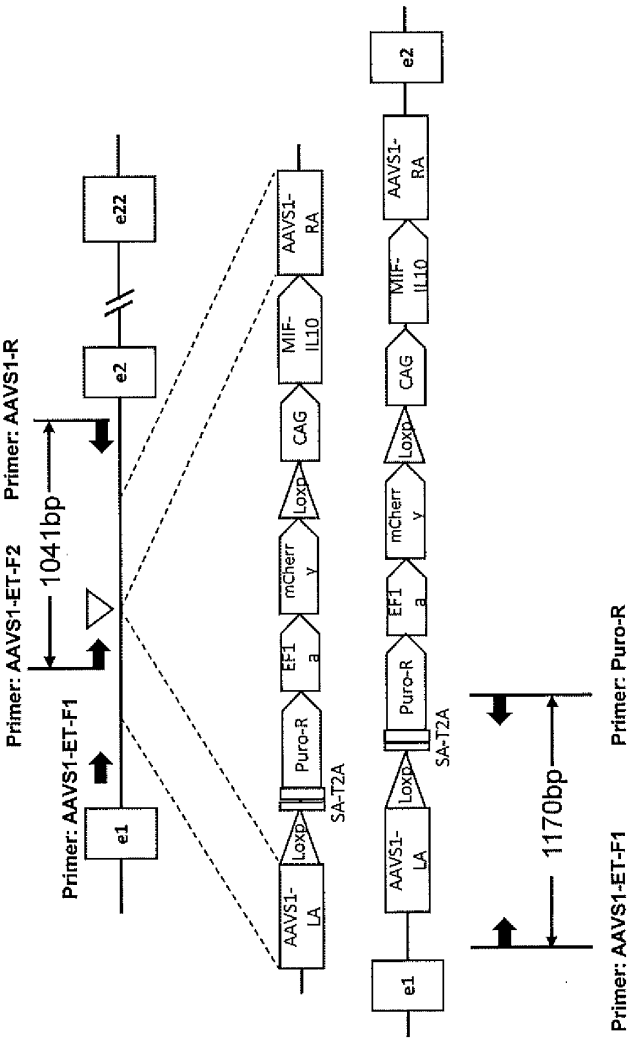

Primer: AAVS1-ET-F2
Primer: AAVS1-R
1041bp
Primer: AAVS1-ET-F1
e1
e22
e2
AAVS1-LA
Loxp
Puro-R
SA-T2A
EF1a
mCherry
Loxp
CAG
MIF-IL10
AAVS1-RA
1170bp
Primer: Puro-R
Primer: AAVS1-ET-F1

FIG. 4B

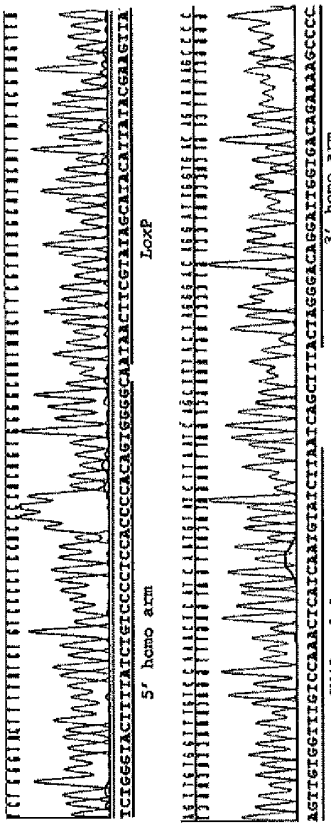


FIG. 4C

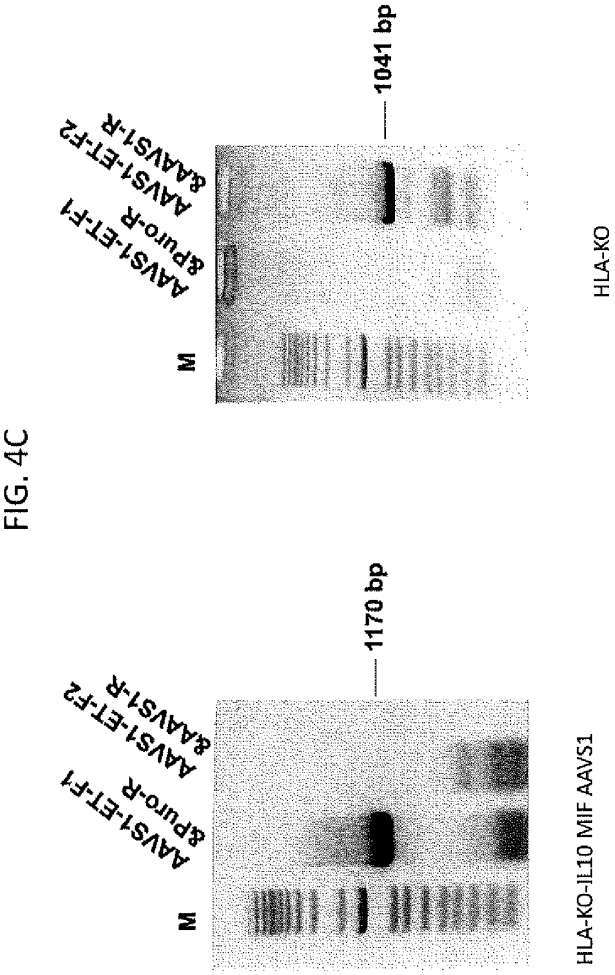
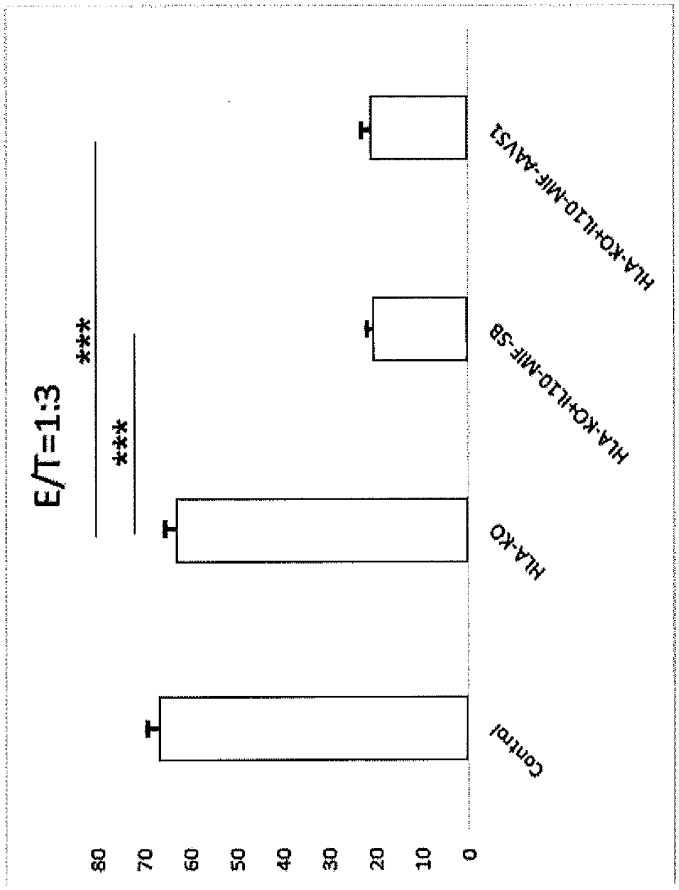

1041 bp
M
AAVS1-ET-F1
&Puro-R
AAVS1-ET-F2
&AAVS1-R
HLA-KO
1170 bp
M
AAVS1-ET-F1
&Puro-R
AAVS1-ET-F2
&AAVS1-R
HLA-KO-IL10 MIF AAVS1

FIG. 5


E/T=1:3
***
***
80
70
60
50
40
30
20
10
0
control
HLA-KO
HLA-KO+IL10-MIF-S8
HLA-KO+IL10-MIF-AAV31