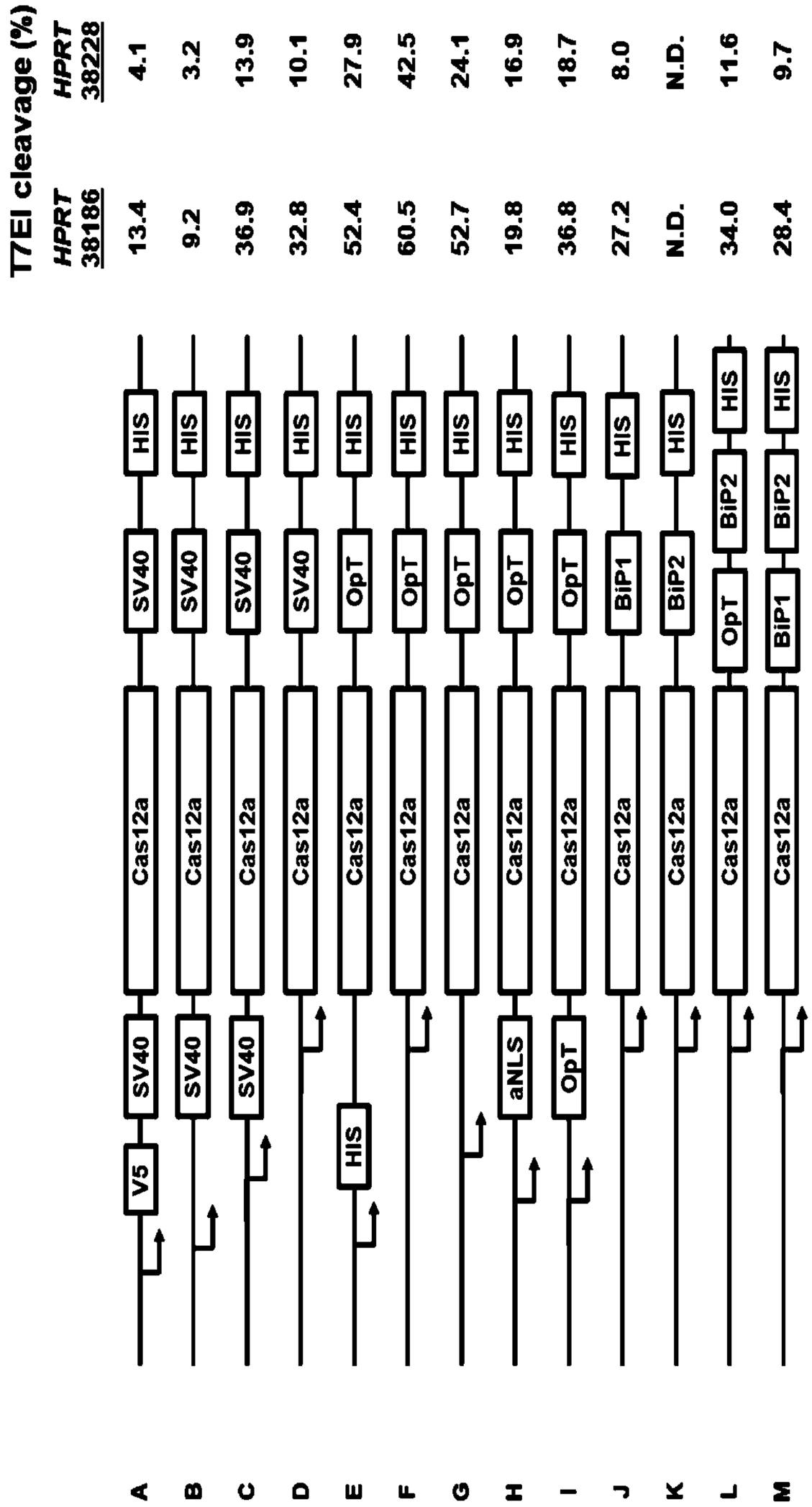

T7EI cleavage (%)
HPRT 38228
HPRT 38186
4.1
3.2
13.9
10.1
27.9
42.5
24.1
16.9
18.7
8.0
N.D.
11.6
9.7
13.4
9.2
36.9
32.8
52.4
60.5
52.7
19.8
36.8
27.2
N.D.
34.0
28.4
HIS
SV40
OpT
BiP1
BiP2
Cas12a
V5
aNLS
A B C D E F G H I J K L M

FIG. 1

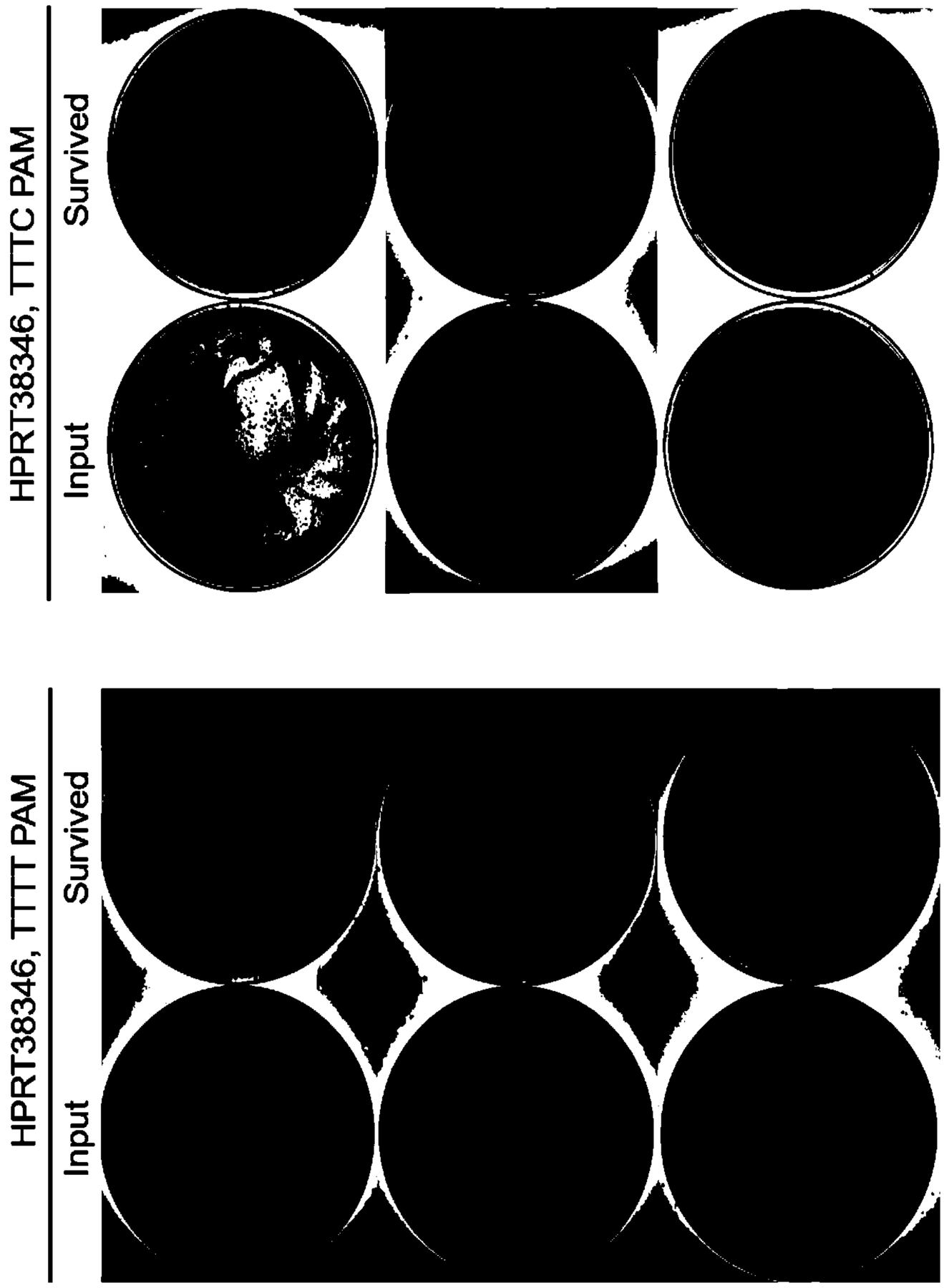

HPRT38346, TTTC PAM
Input
Survived
HPRT38346, TTTT PAM
Input
Survived
WT-Cpf1
M537R
F870L

FIG. 2

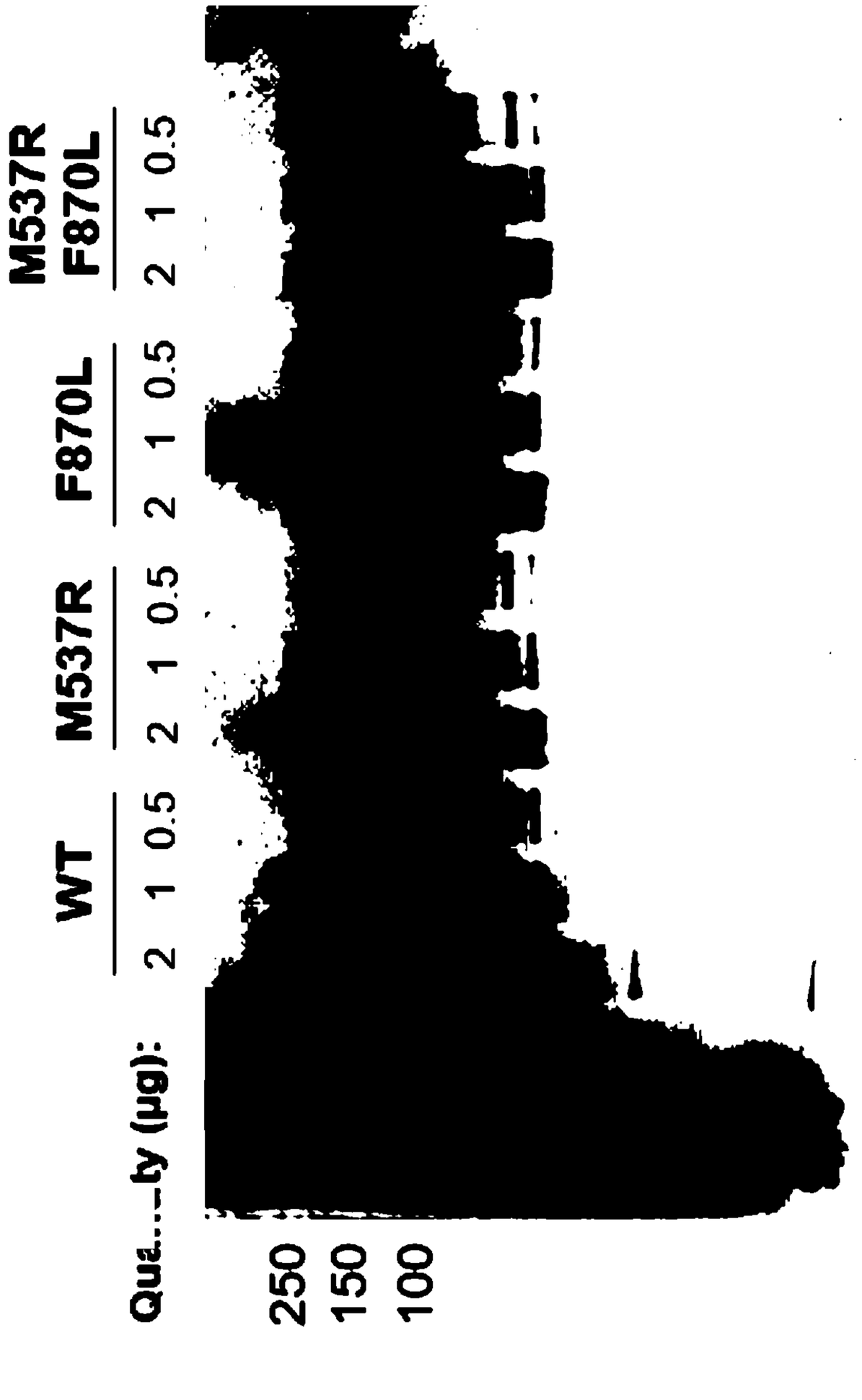

WT
M537R
F870L
M537R F870L
2 1 0.5 2 1 0.5 2 1 0.5 2 1 0.5
Qua...ty (µg):
250
150
100

FIG. 3A

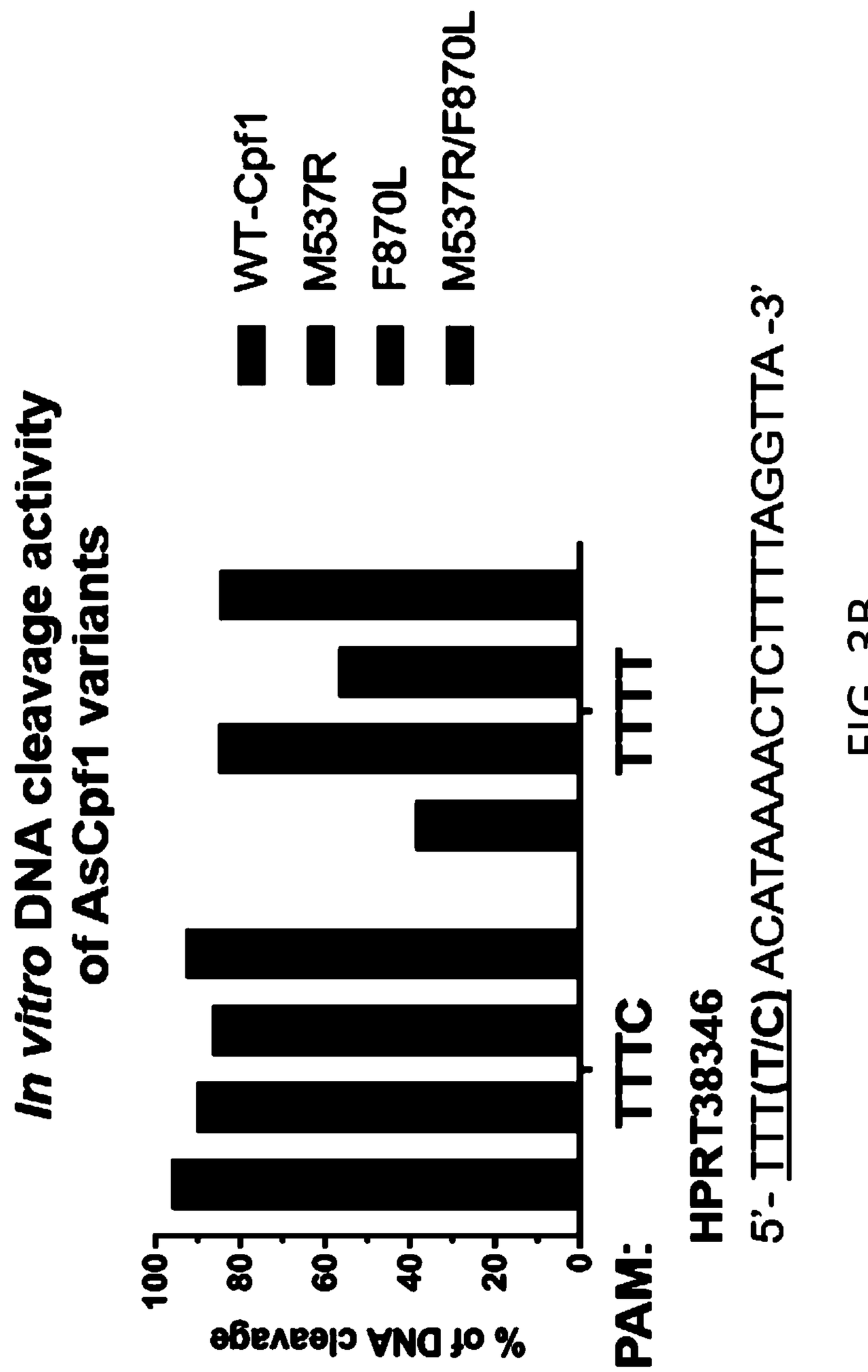

In vitro DNA cleavage activity of AsCpf1 variants
WT-Cpf1
M537R
F870L
M537R/F87
% of DNA cleavage
100
80
60
40
20
0
PAM:
TTTC
TTT
HPRT38346
5'- TTT(T/C) ACATAAAACTCT
TTTAGGTTA -3'
3B

FIG. 3

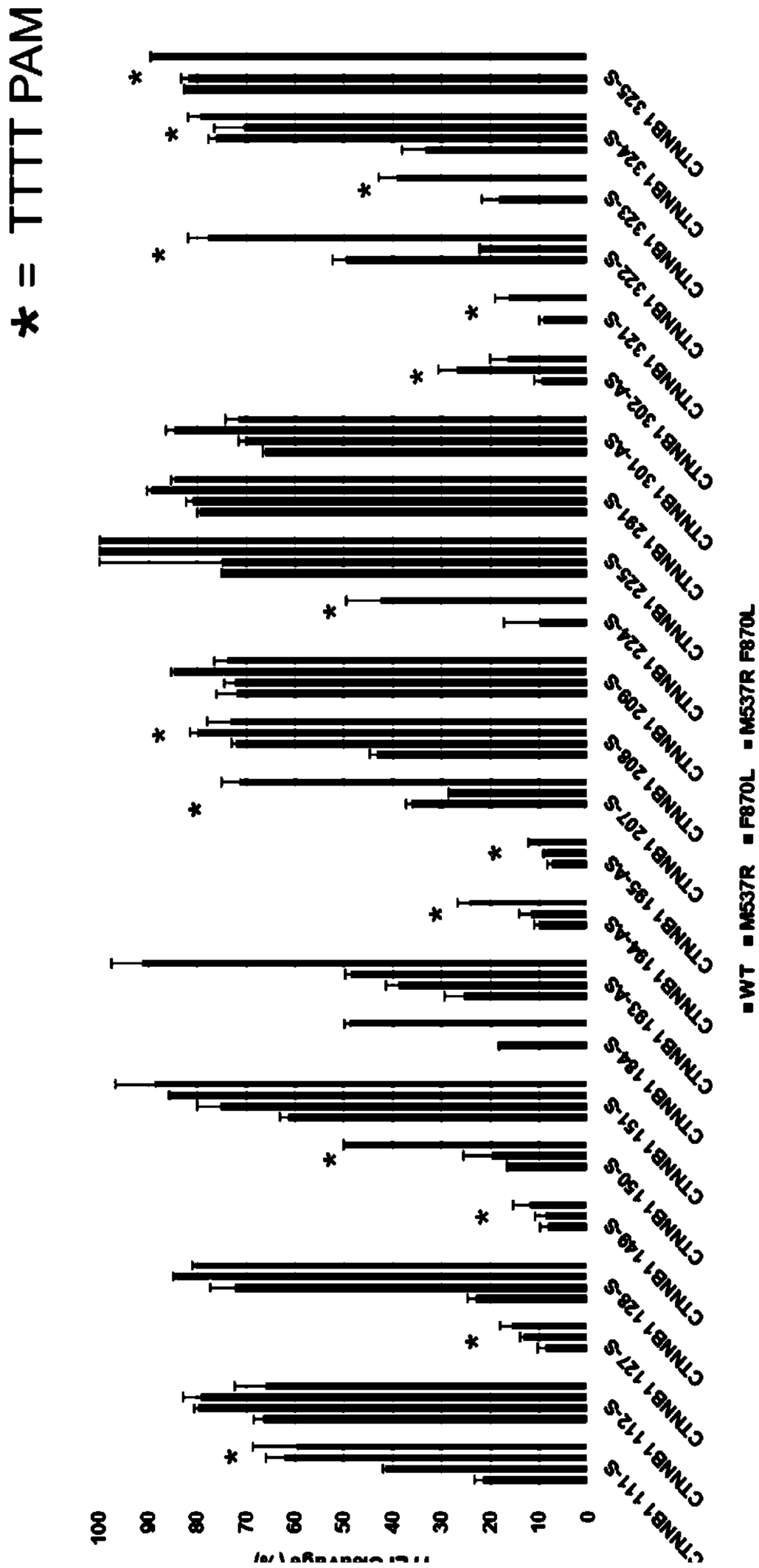

* = TTTT PA
CTNNB1 325-S
CTNNB1 324-S
CTNNB1 323-S
CTNNB1 322-S
CTNNB1 321-S
CTNNB1 302-AS
CTNNB1 301-AS
CTNNB1 291-S
CTNNB1 225-S
CTNNB1 224-S
CTNNB1 209-S
CTNNB1 208-S
CTNNB1 207-S
CTNNB1 195-AS
CTNNB1 194-AS
CTNNB1 193-AS
CTNNB1 184-S
CTNNB1 151-S
CTNNB1 150-S
CTNNB1 149-S
CTNNB1 128-S
CTNNB1 127-S
CTNNB1 112-S
CTNNB1 111-S
WT M537R F870L M537R F870L
0 10 20 30 40 50 60 70 80 90 100

FIG. 4

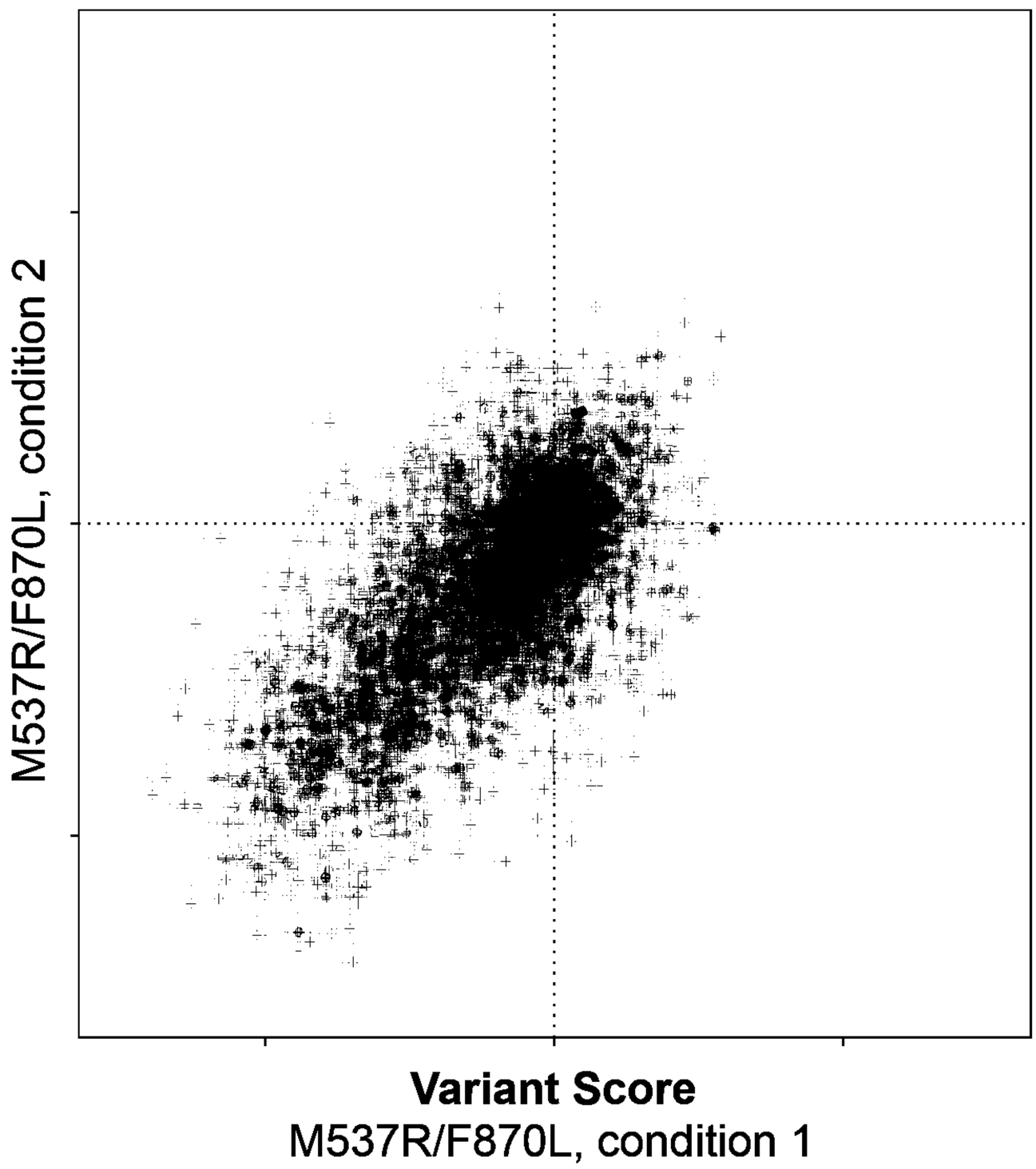

Variant Score
M537R/F870L, condition 2
Variant Score
M537R/F870L, condition 1

FIG. 5A

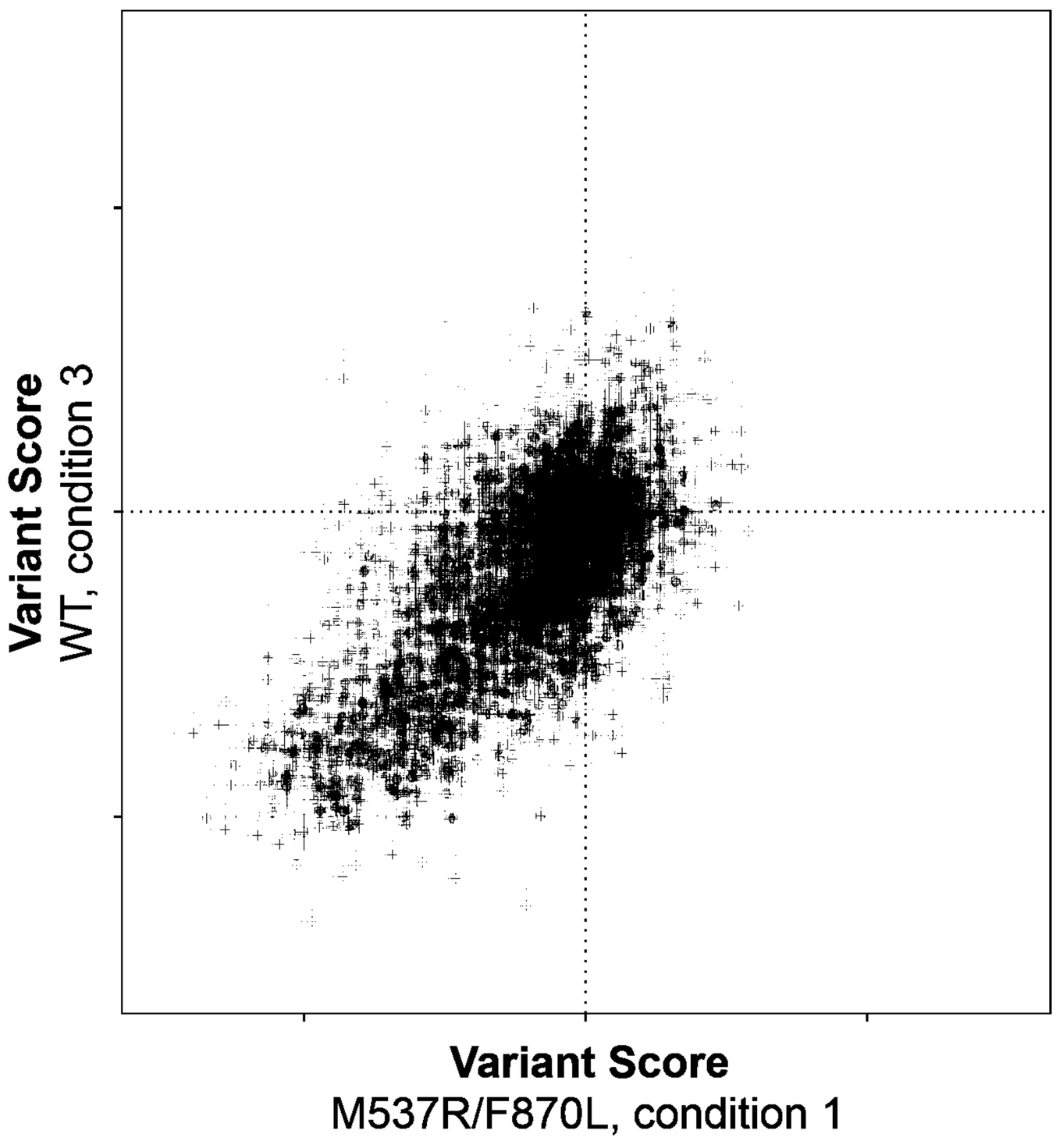

Variant Score
WT, condition 3
Variant Score
M537R/F870L, condition 1

FIG. 5B

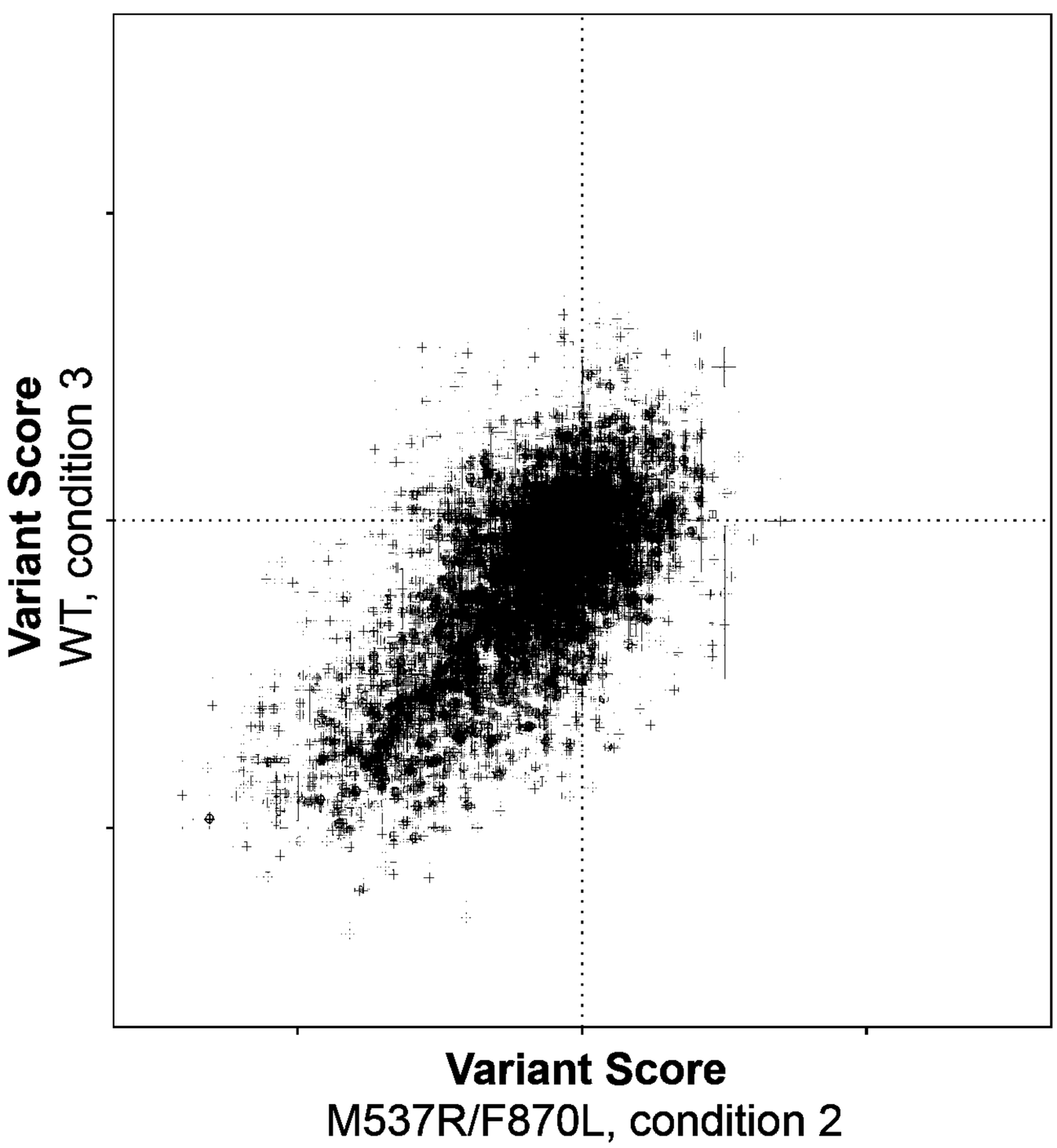

Variant Score
WT, condition 3
Variant Score
M537R/F870L, condition 2

FIG. 5C

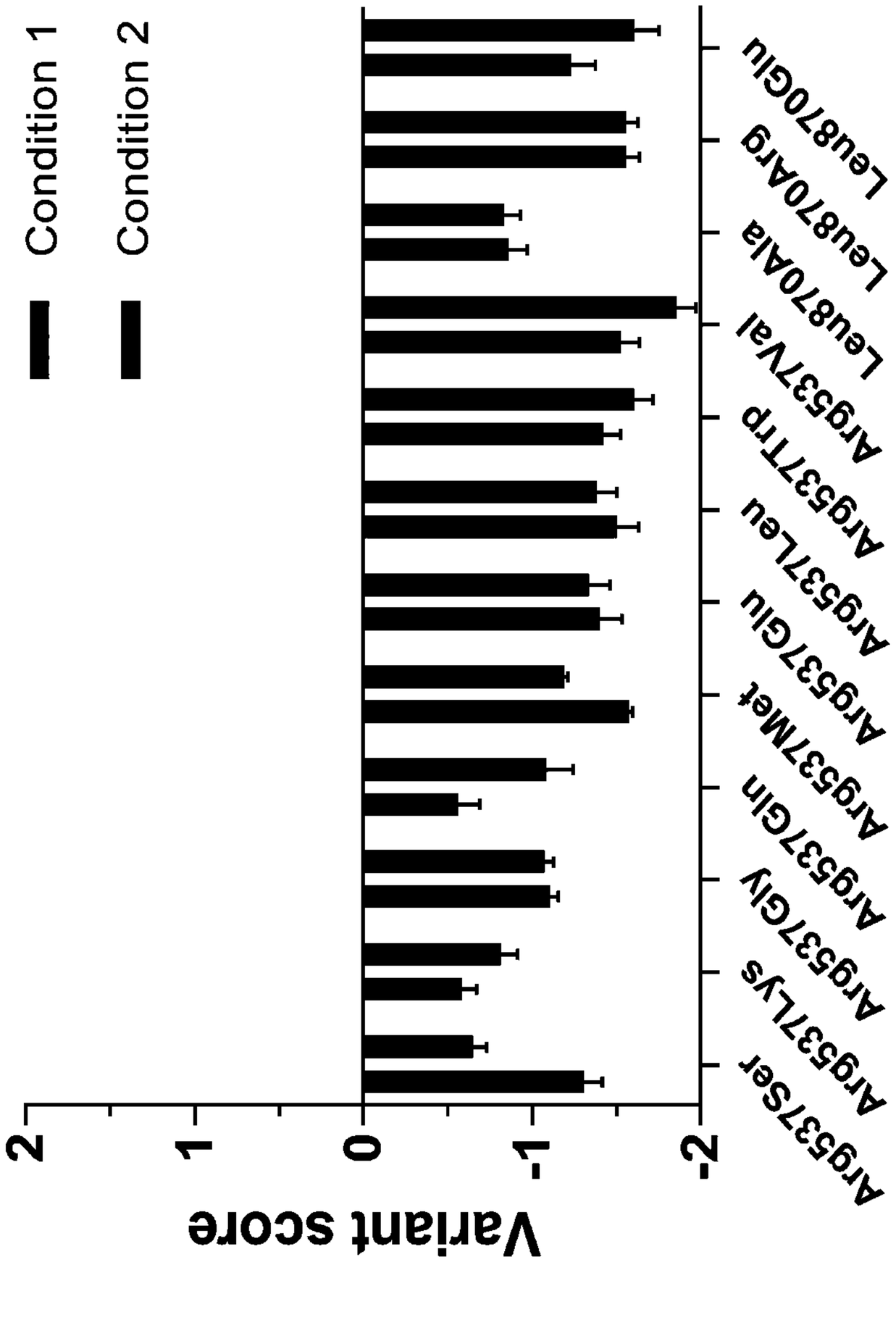

Condition 1
Condition 2
Variant score
2
1
0
-1
-2
Arg537Ser
Arg537Lys
Arg537Gly
Arg537Gln
Arg537Met
Arg537Glu
Arg537Leu
Arg537Trp
Arg537Val
Leu870Ala
Leu870Arg
Leu870Glu

FIG. 5D

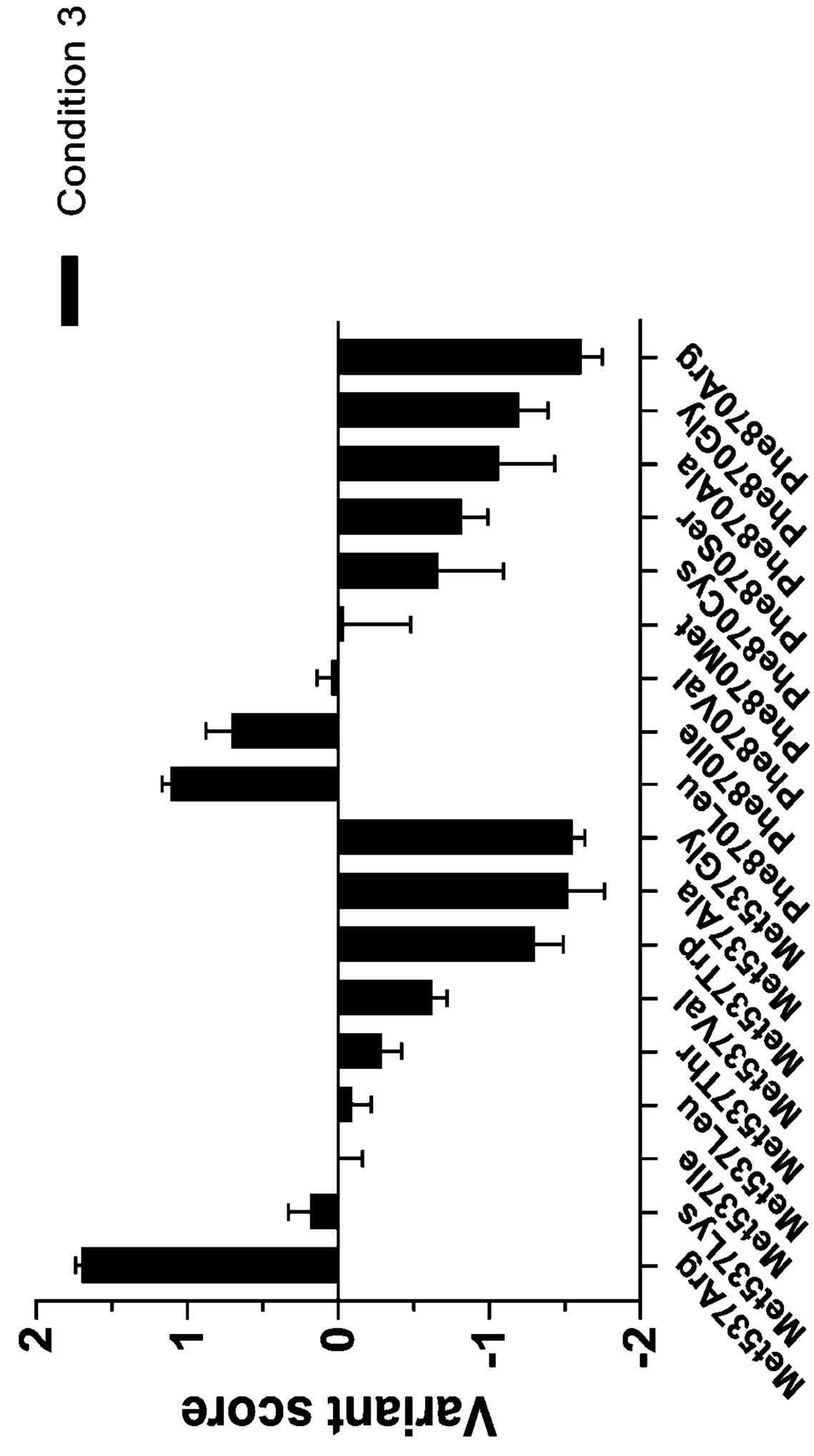

Condition
Variant score
2
1
0
-1
-2
Met537Arg
Met537Lys
Met537Ile
Met537Leu
Met537Thr
Met537Val
Met537Trp
Met537Ala
Met537Gly
Phe870Leu
Phe870Ile
Phe870Val
Phe870Met
Phe870Cys
Phe870Ser
Phe870Ala
Phe870Gly
Phe870Arg

FIG. 5E

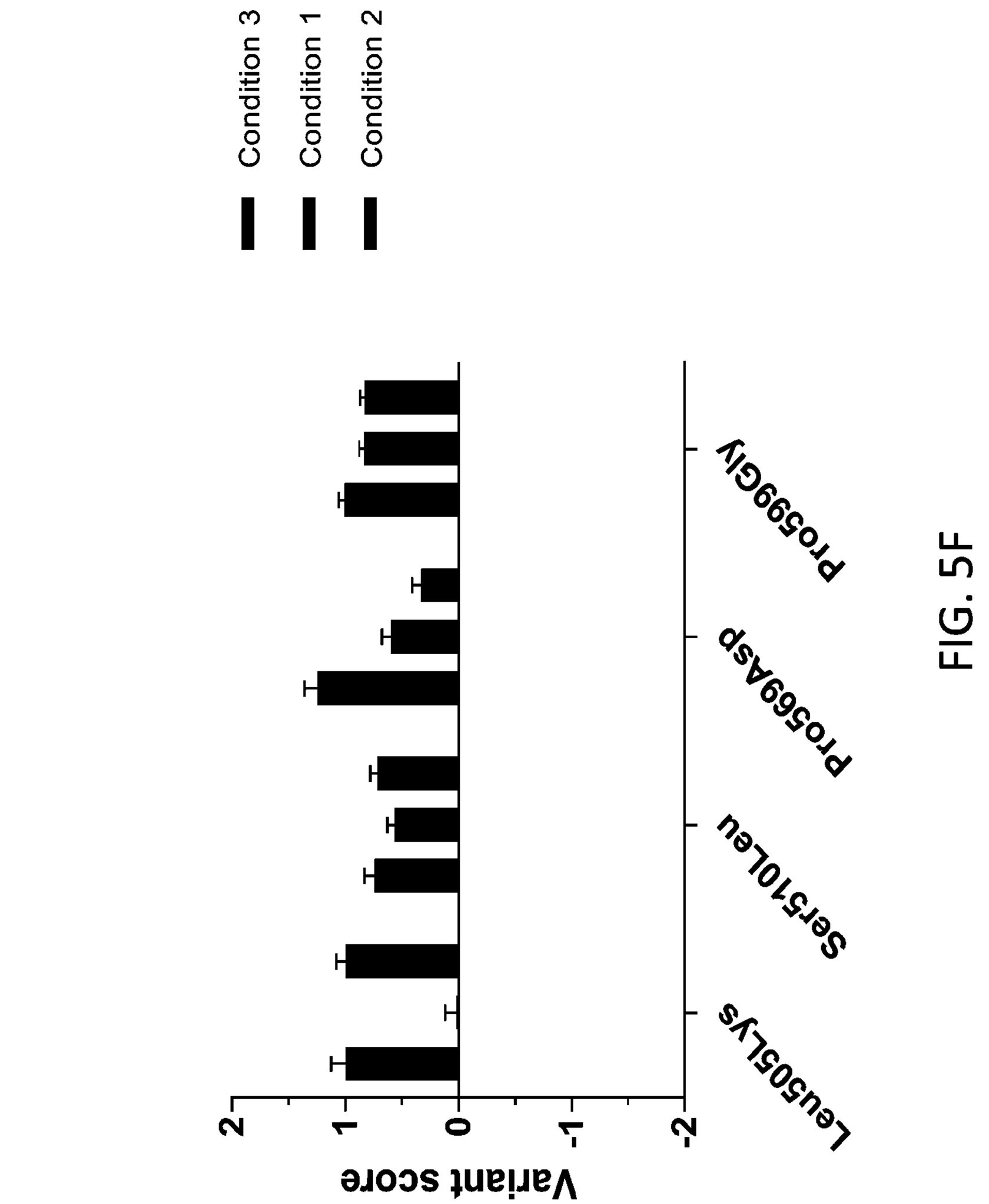

Condition 3
Condition 1
Condition 2
Pro599Gly
Pro569Asp
Ser510Leu
Leu505Lys
2
1
0
-1
-2
Variant score

FIG. 5F

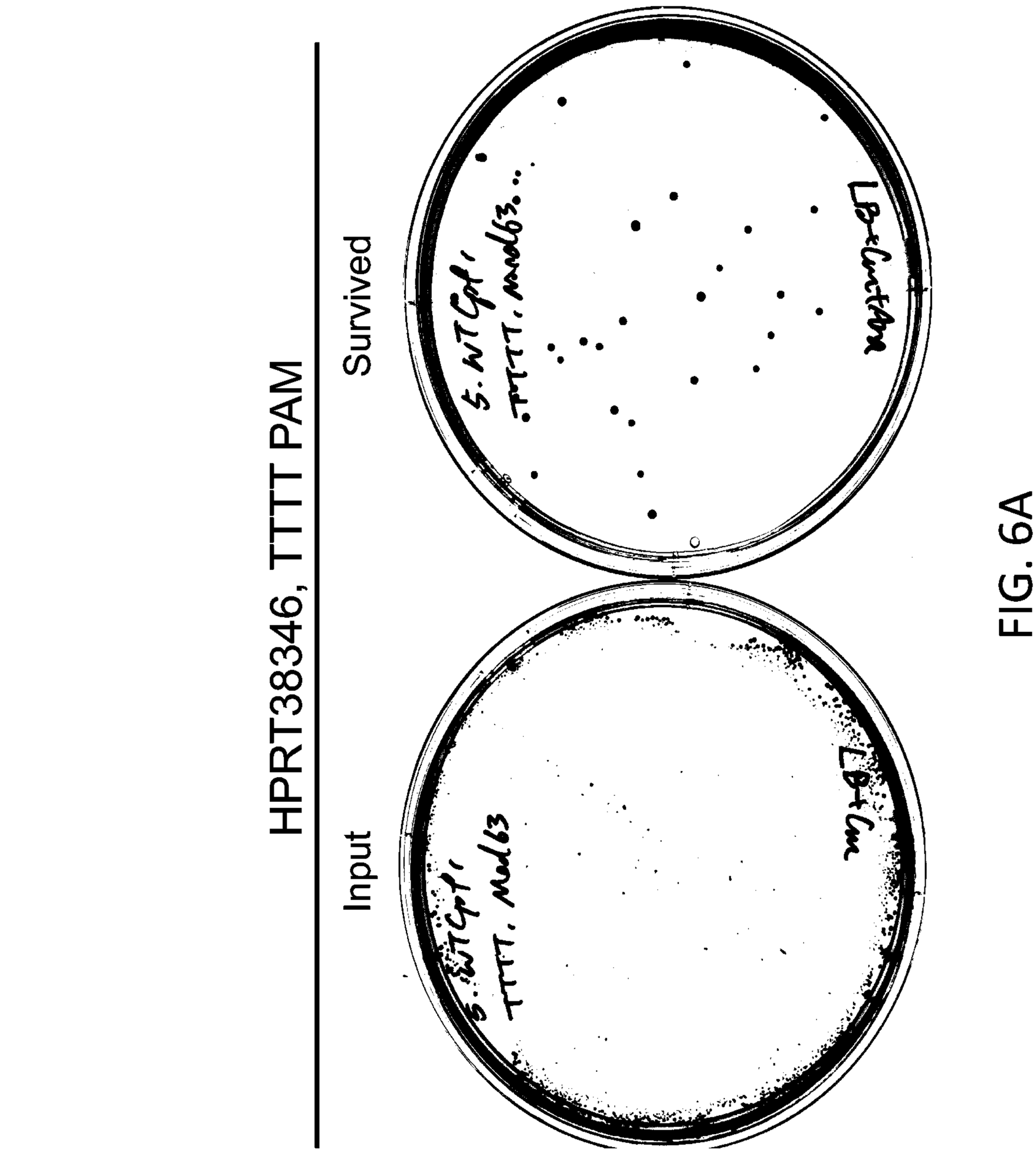


FIG. 6A

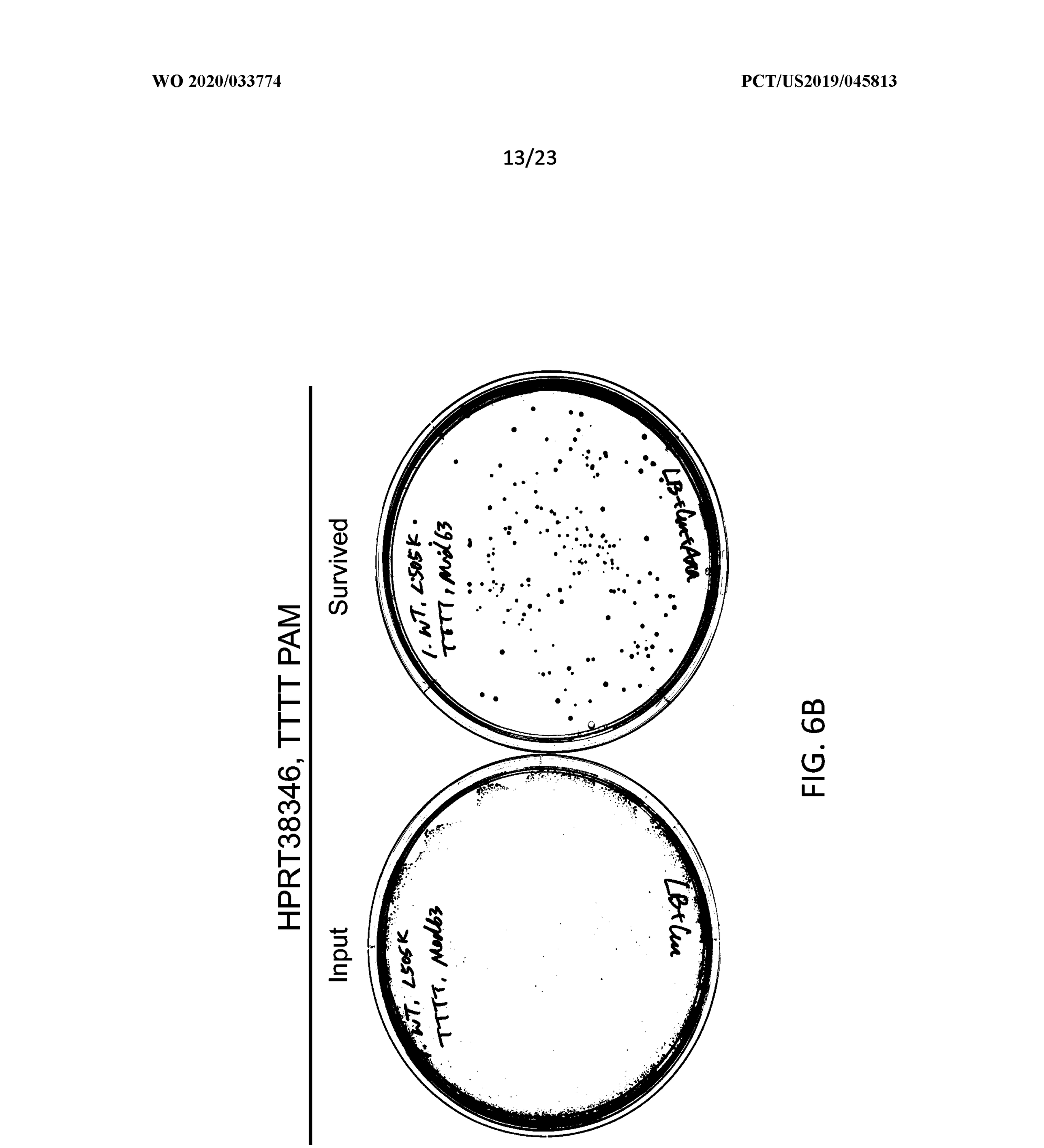

HPRT38346, TTTT PAM
Survived
Input
LB+Lucks/Apra
1. WT, L506K.
TTTT, Mod63
LB+Lucks
WT, L506K
TTTT, Mod63

FIG. 6B

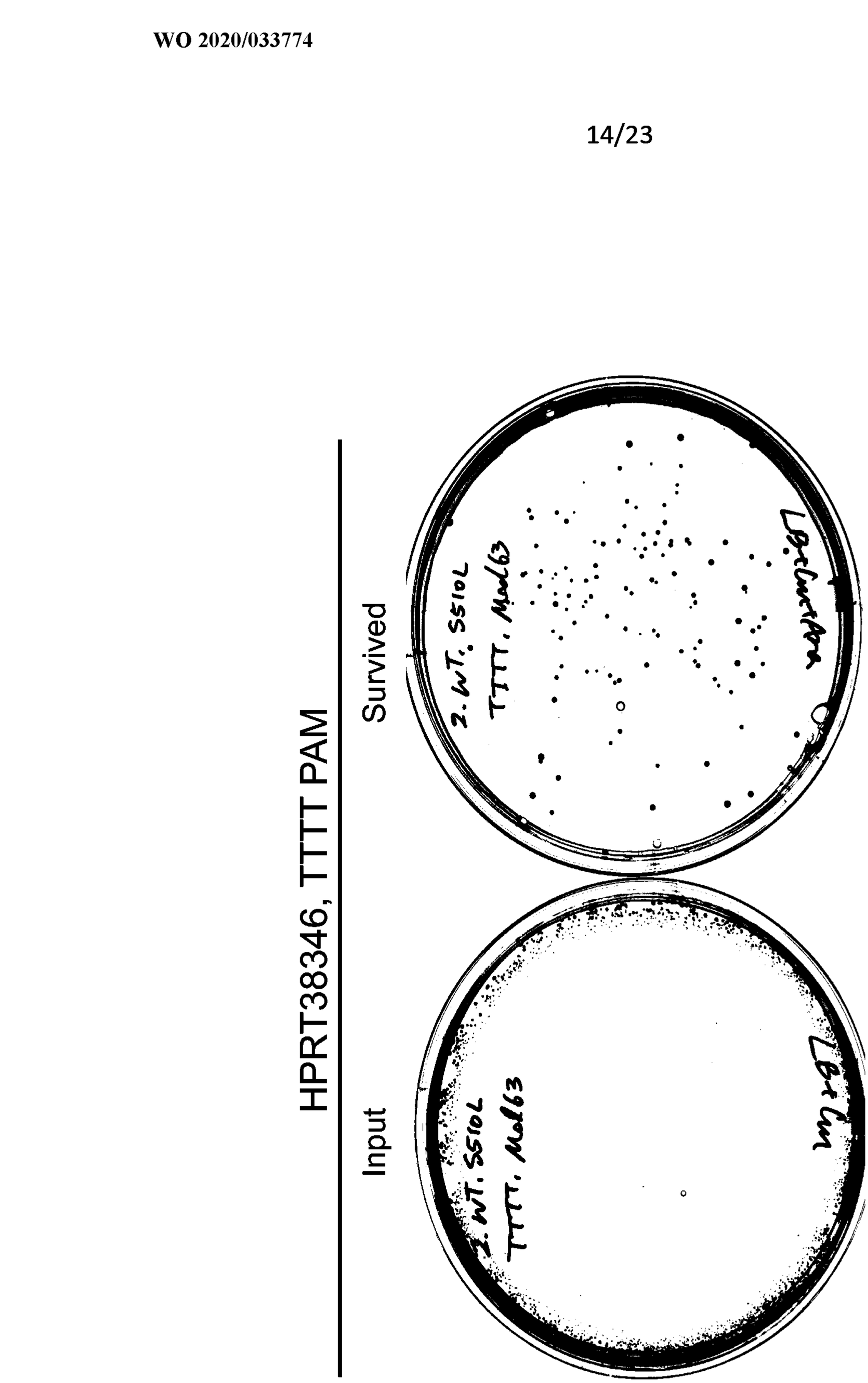

HPRT38346, TTTT PAM
Survived
Input
2. WT. SS10L
TTTT. Mod63
LB+Lm
2. WT. SS10L
TTTT. Mod63
LB+Lm

FIG. 6C



FIG. 6D

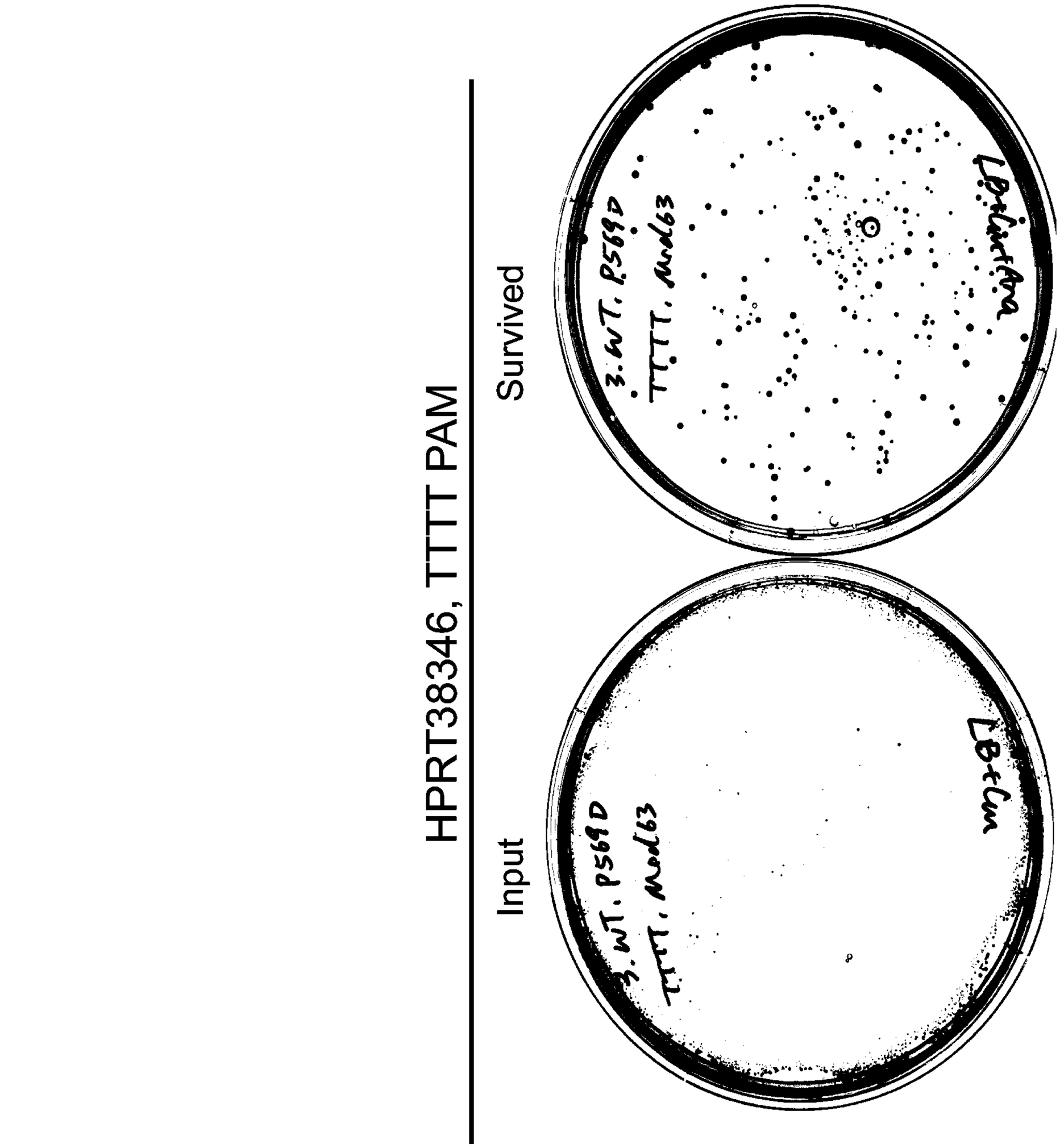

HPRT38346, TTTT PAM
Survived
Input
3. WT. PS69D
TTTT. Mod63
LB+Cm
LB+Cm

FIG. 6E

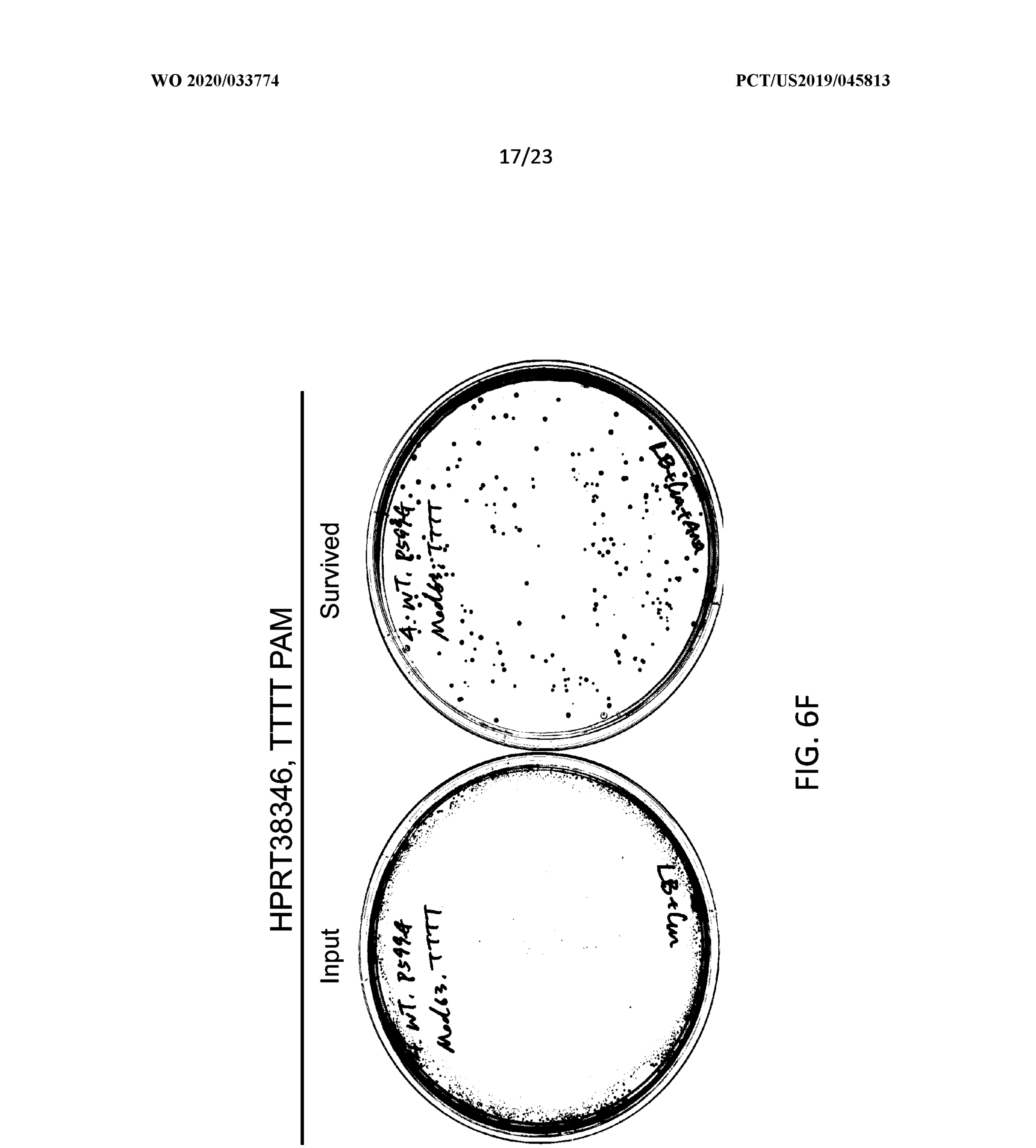


FIG. 6F



FIG. 7A

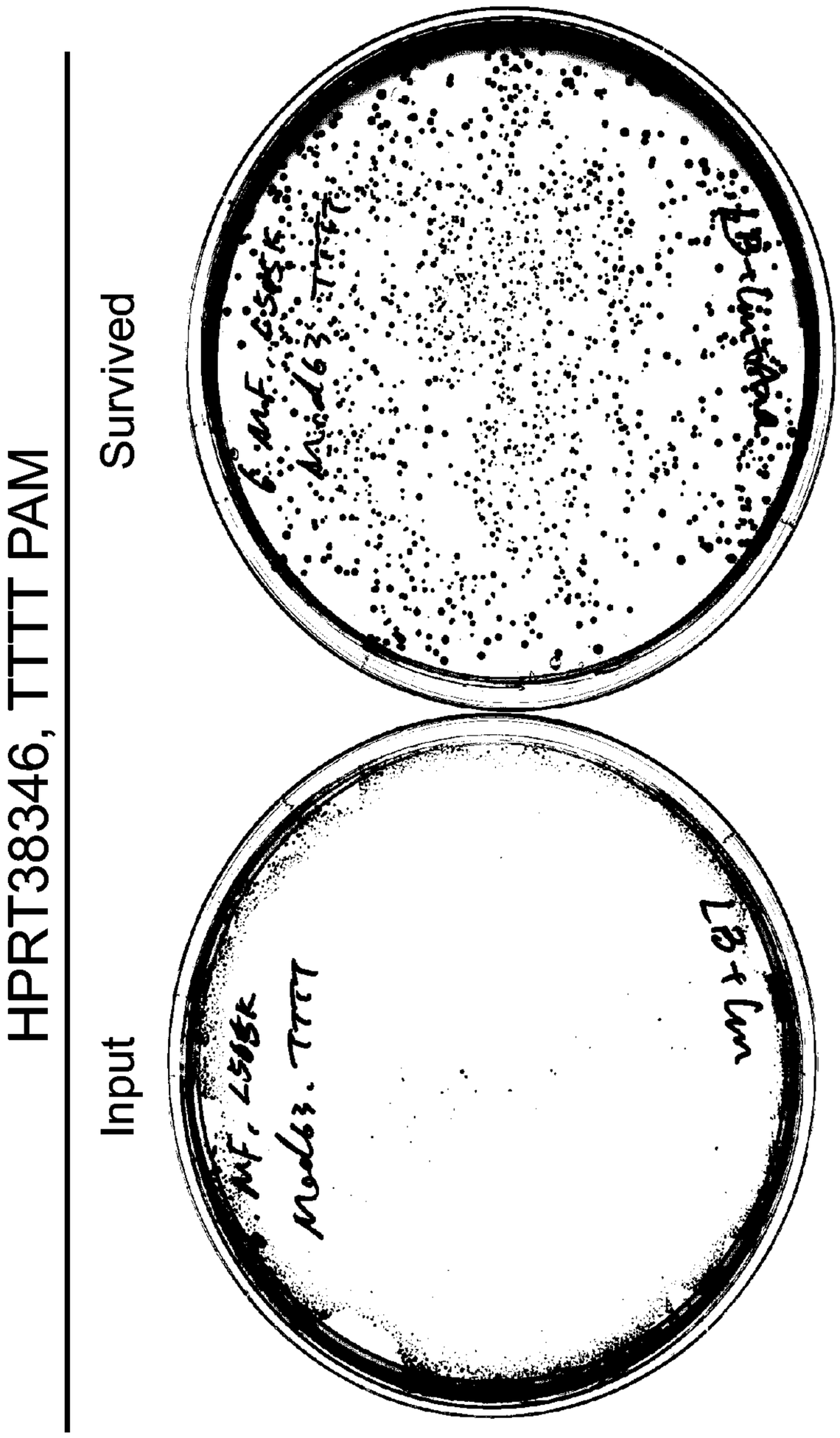


FIG. 7B

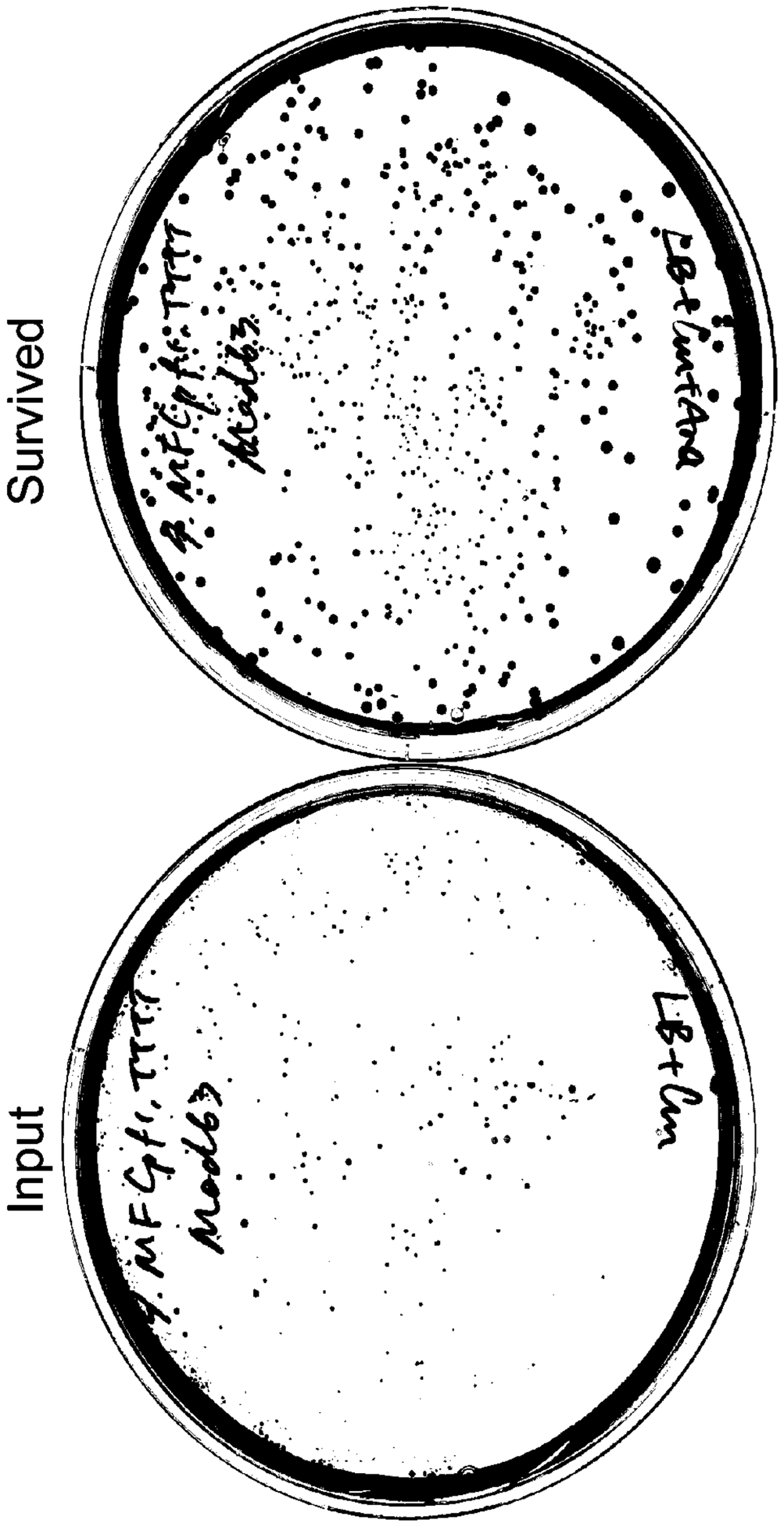


FIG. 7C

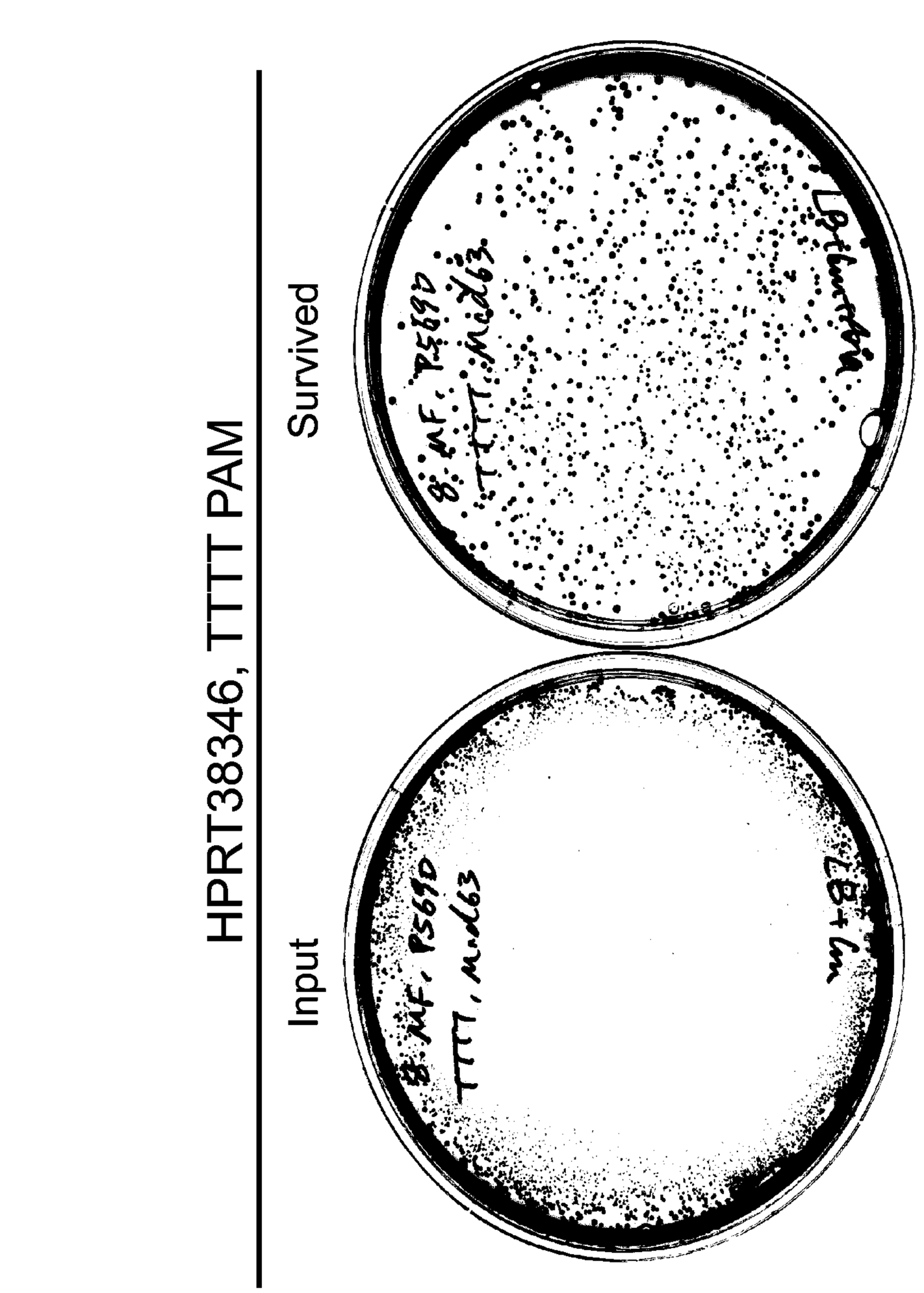


FIG. 7D

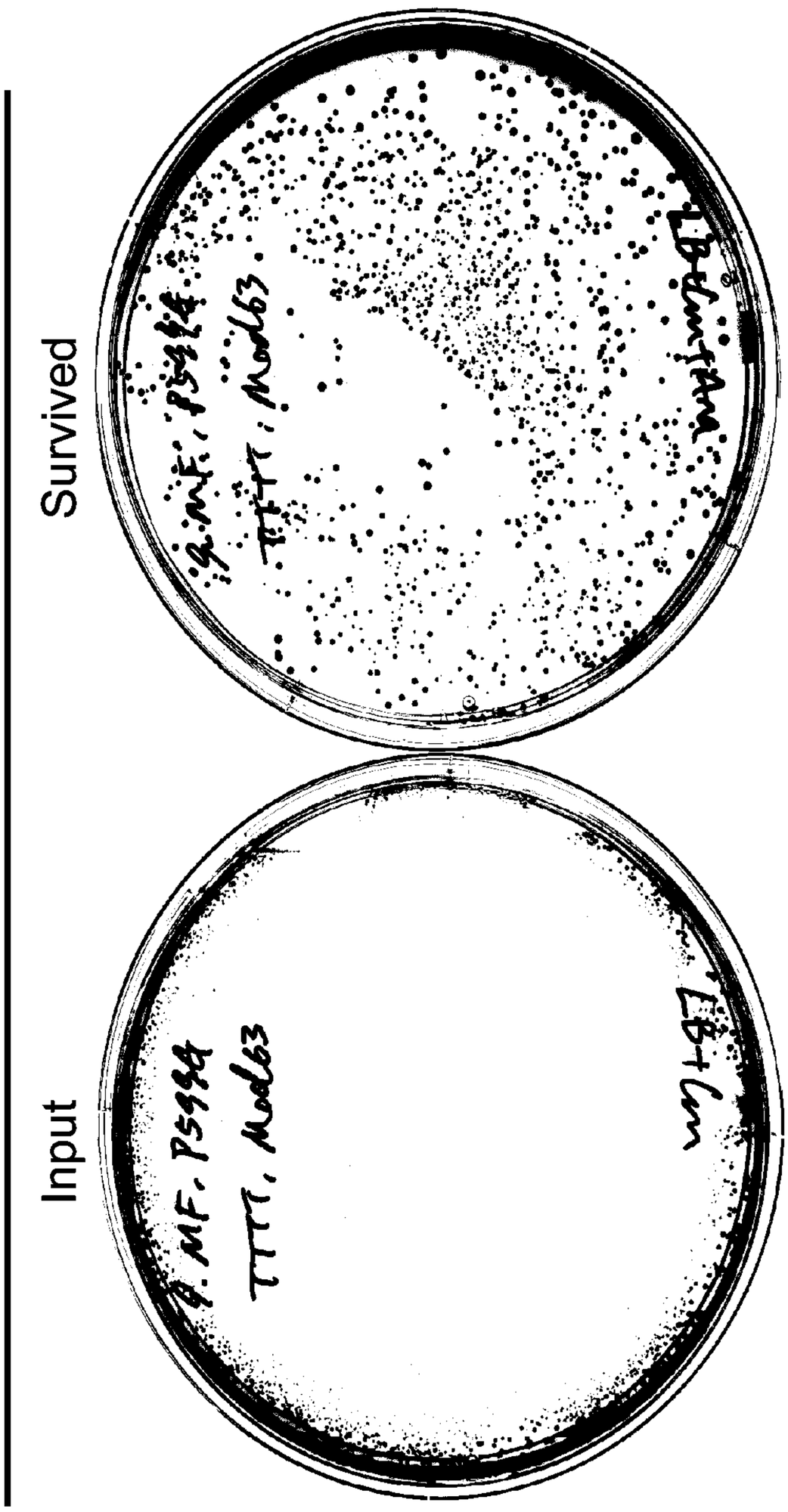


FIG. 7E

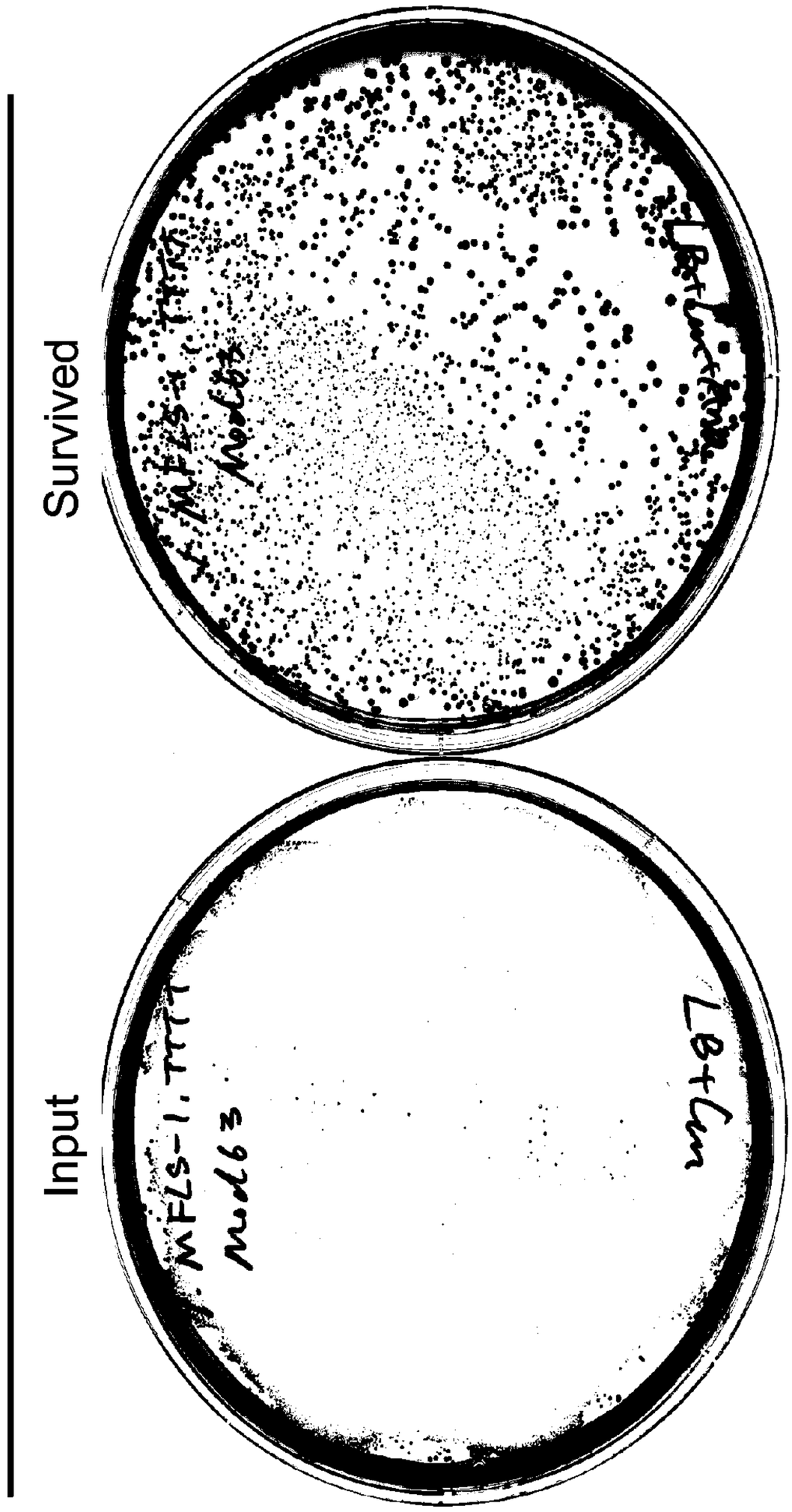


FIG. 7F