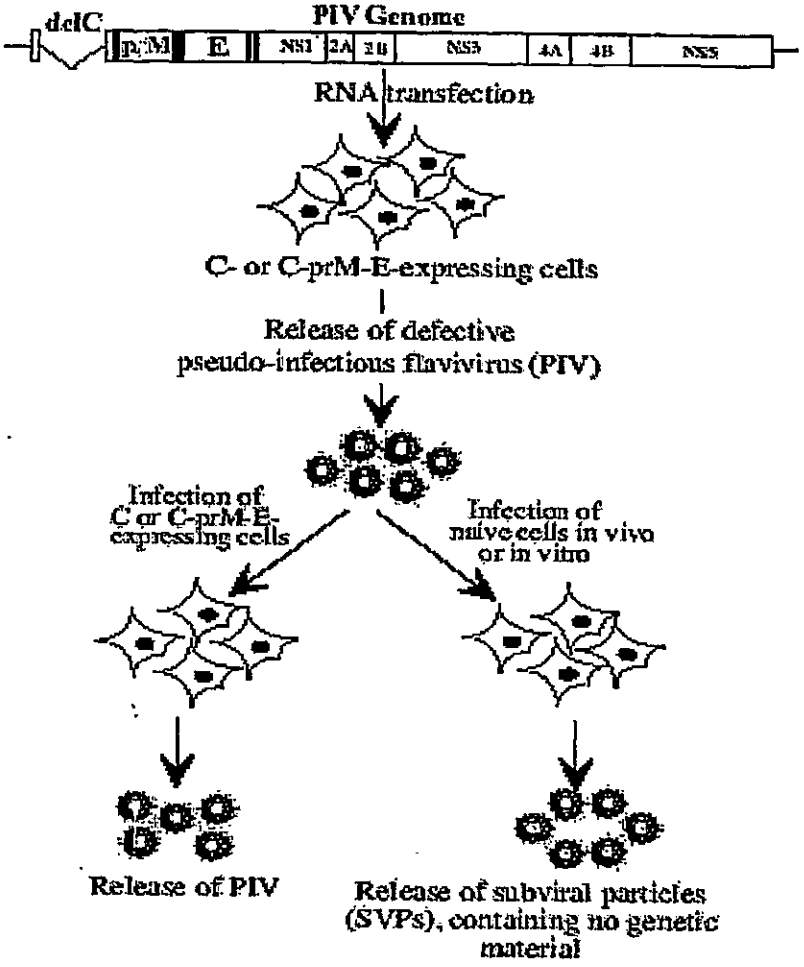

dclC
PIV Genome
prM
E
NS1
2A
2B
NS3
4A
4B
NS5
RNA transfection
C- or C-prM-E-expressing cells
Release of defective
pseudo-infectious flavivirus (PIV)
Infection of
C or C-prM-E-
expressing cells
Infection of
naive cells in vivo
or in vitro
Release of PIV
Release of subviral particles
(SVPs), containing no genetic
material

Fig.1

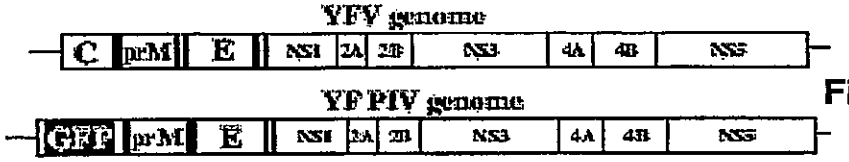



Fig.2A

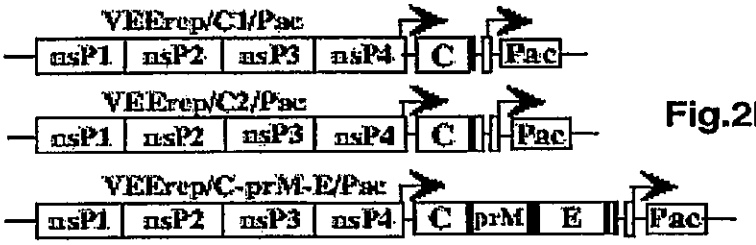



Fig.2B

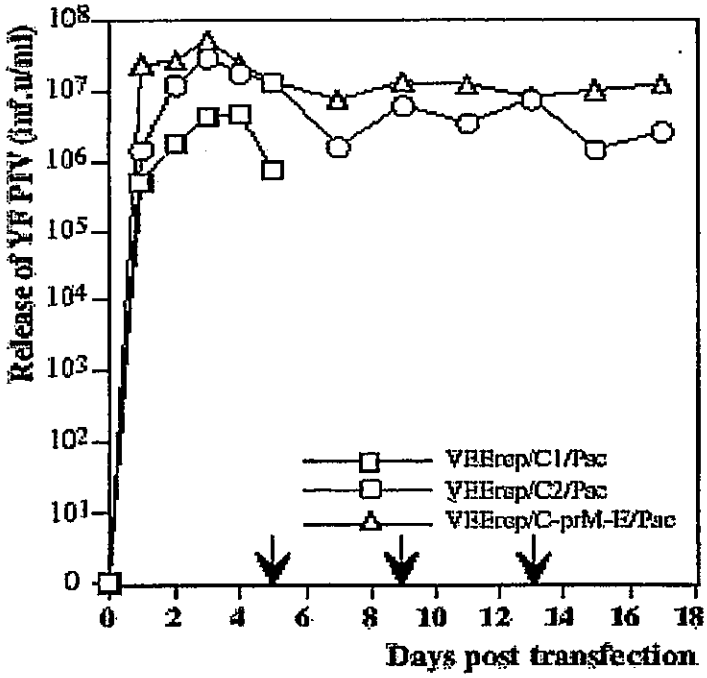



Fig.2C

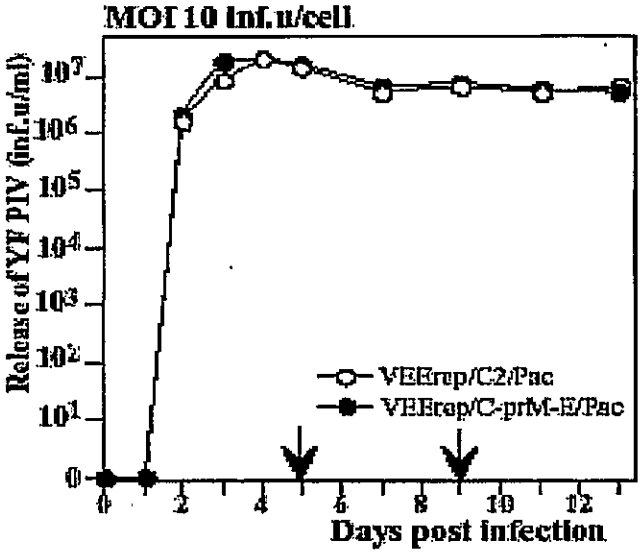

MOI 10 Inf.u/cell
Release of YF PIV (inf.u/ml)
$10^7$
$10^6$
$10^5$
$10^4$
$10^3$
$10^2$
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0
0 2 4 6 8 10 12
Days post infection
VEErep/C2/Pac
VEErep/C-prM-E/Pac

Fig. 3A

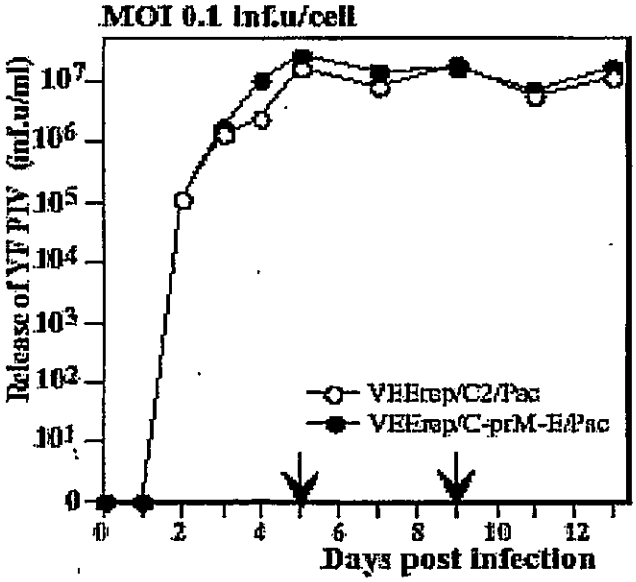

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Release of YF PIV (inf.u/ml)
$10^7$
$10^6$
$10^5$
$10^4$
$10^3$
$10^2$
$10^1$
0
0 2 4 6 8 10 12
Days post infection
VEErep/C2/Pac
VEErep/C-prM-E/Pac

Fig. 3B

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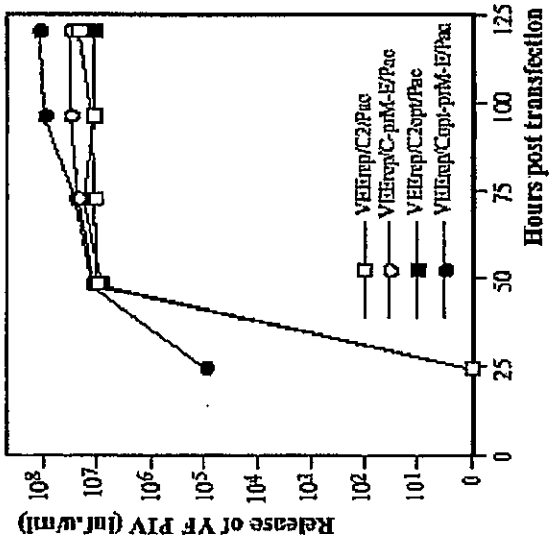



Fig. 4B

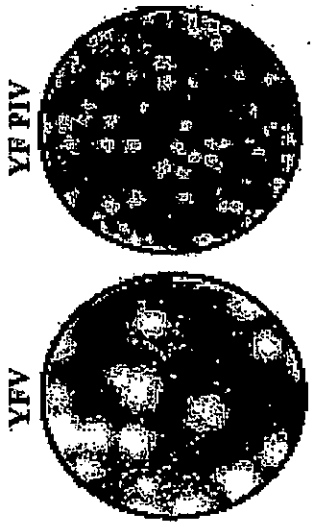



Fig. 4C

Fig. 5A

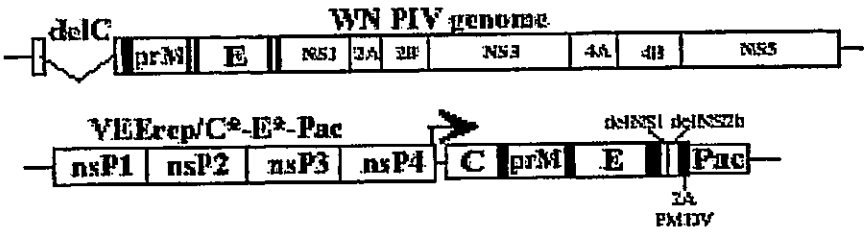





Fig. 5B

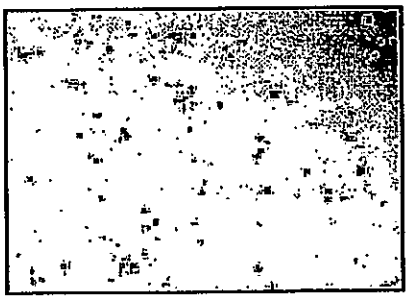


Fig. 5C

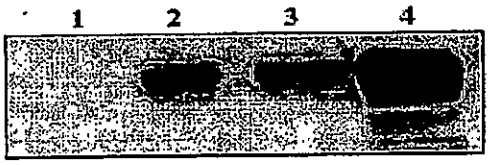



Fig. 6A

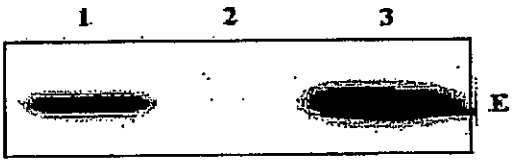



Fig. 6B

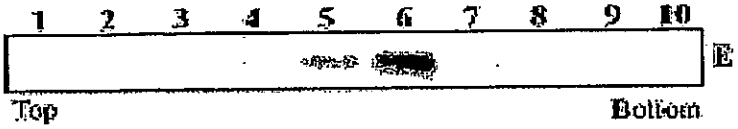



Fig. 6C

Fig. 7A

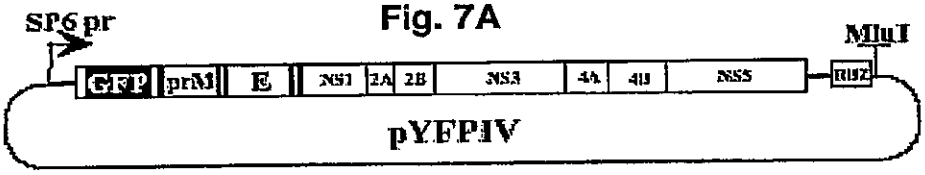
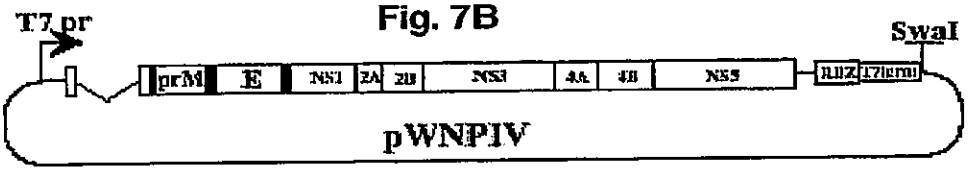



Fig. 7B



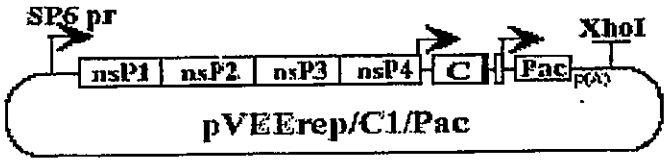




Fig. 7C

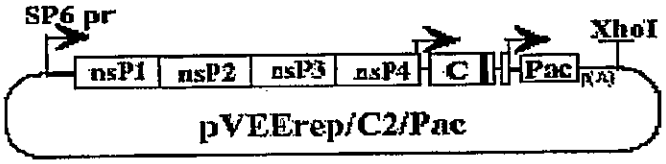



Fig. 7D

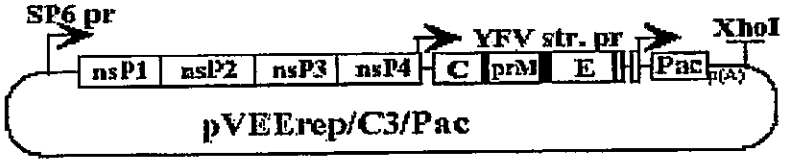



Fig. 7E

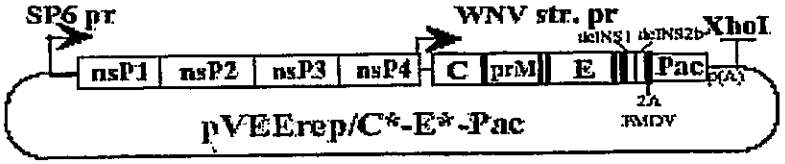



Fig. 7F

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Fig. 8A

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**Fig.8B**

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Fig. 8C

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Fig.8D

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Fig. 8E

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Fig. 8F

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Fig. 8G

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(SEQ ID NO: 7)

Fig. 8H

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Fig. 8I

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Fig. 8J

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**Fig.8K**

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Fig. 8L

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Fig. 8M

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Fig. 8N

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Fig. 8O

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Fig. 8P

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Fig. 8Q

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Fig. 8R

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**Fig. 8S**

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Fig. 8T

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aactcggtcgccgcatacactattctcagaatgacttggttgagtactcaccagtcacagaaaagcatcttacggatggcat
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gaccgaaggagctaaccgcttttttgcacaacatgggggatcatgtaactcgccttgatcgttgggaaccggagctgaatg
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aactacttactctagcttcccggcaacaattaatagactggatggaggcggataaagttgcaggaccacttctgcgctcggc
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gagataggtgcctcactgattaagcattggtaactgtcagaccaagtttactcatatatactttagattgatttaaaacttcatttttt
aatttaaaaggatctaggtgaagatccttttgataatctcatgaccaaaatcccttaacgtgagttttcgttccactgagcgtca
gaccccgtagaaaagatcaaaggatcttcttgagatcctttttttctgcgcgtaatctgctgcttgcaaacaaaaaaaccacc
gctaccagcggtggtttgtttgccggatcaagagctaccaactctttttccgaaggtaactggcttcagcagagcgcagatac
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Fig. 8U

tcctgttaccagtggctgctgccagtggcgataagtcgtgtcttaccgggttggactcaagacgatagttaccggataaggcg
cagcggtcgggctgaacgggggttcgtgcacacagcccagcttggagcgaacgacctacaccgaactgagataccta
cagcgtgagcattgagaaagcgccacgcttcccgaagggagaaaggcggacaggtatccggtaagcggcagggtcg
gaacaggagagcgcacgagggagcttccagggggaaacgcctggtatctttatagtcctgtcgggtttcgccacctctgac
ttgagcgtcgatttttgtgatgctcgtcaggggggcggagcctatggaaaaacgccagcaacgcgagctcgatttaggtga
cactata **(SEQ ID NO: 11)**

**Fig. 8V**

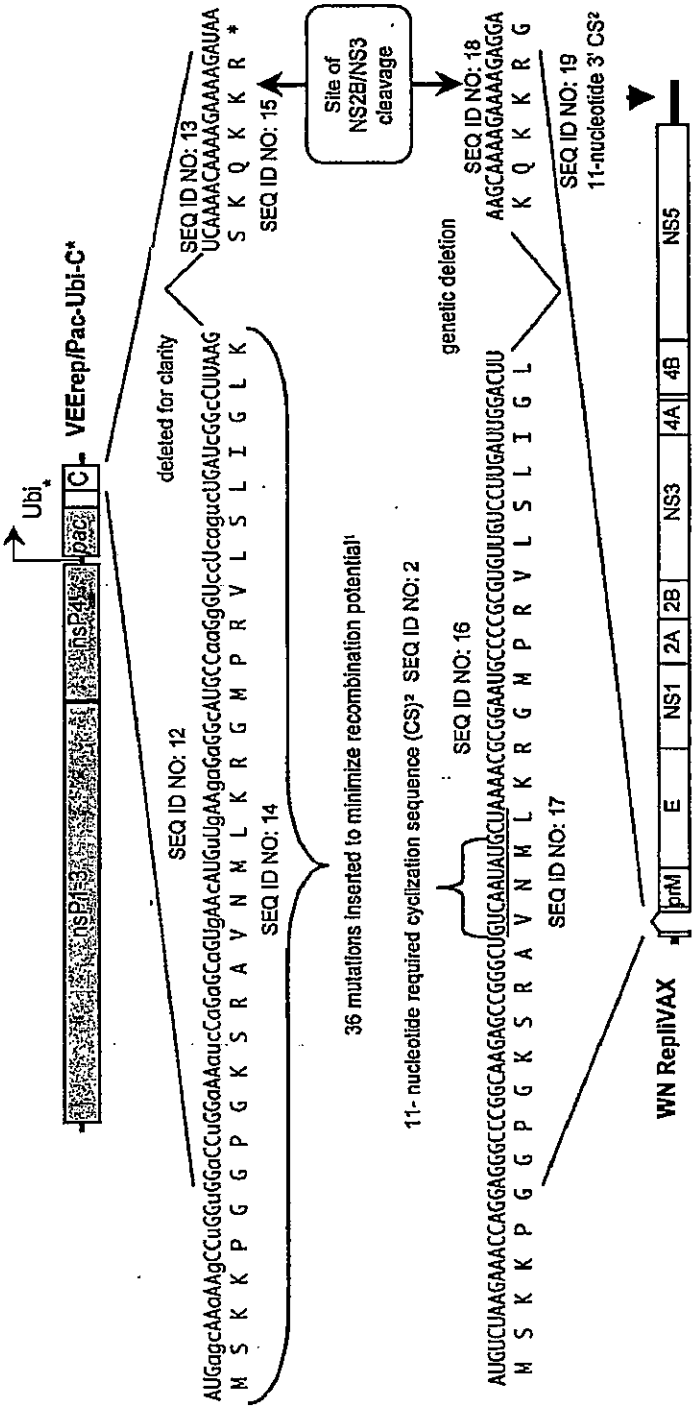
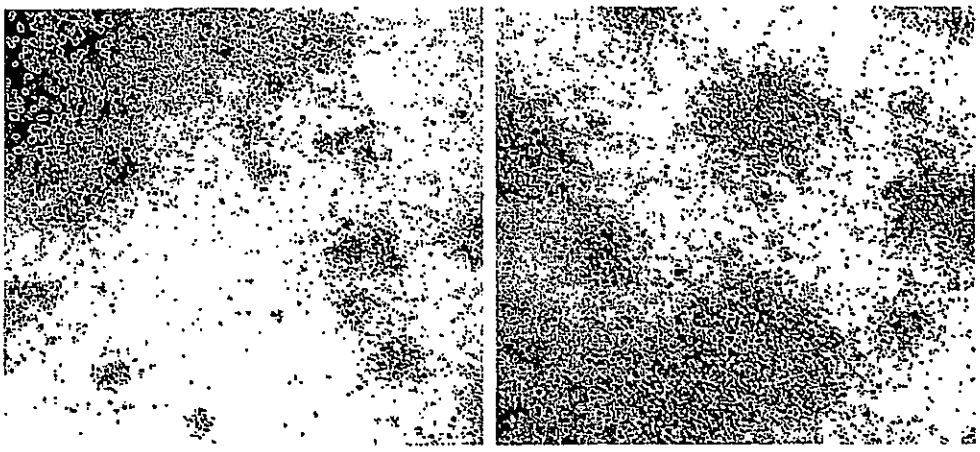
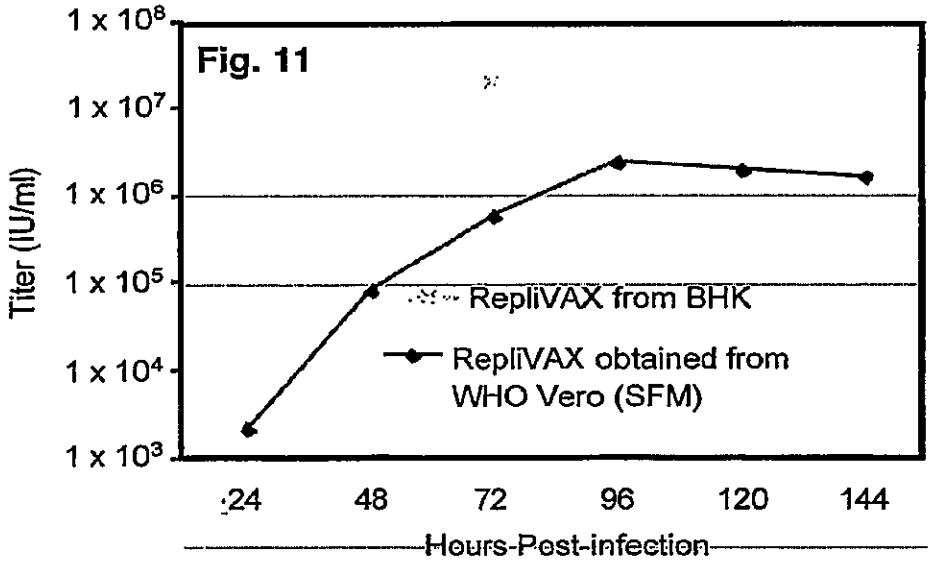
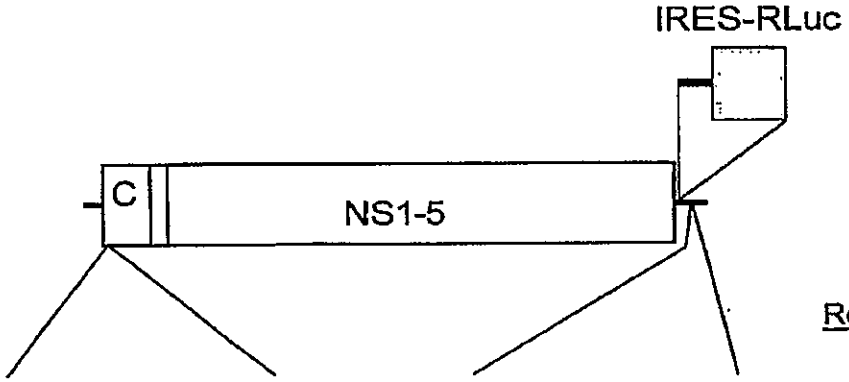

Ubi*
pac
C
VEErep/Pac-Ubi-C*
deleted for clarity
SEQ ID NO: 13
SEQ ID NO: 12
SEQ ID NO: 15
Site of NS2B/NS3 cleavage
SEQ ID NO: 14
36 mutations inserted to minimize recombination potential¹
genetic deletion
SEQ ID NO: 18
11- nucleotide required cyclization sequence (CS)² SEQ ID NO: 2
SEQ ID NO: 16
SEQ ID NO: 19
11-nucleotide 3' CS²
SEQ ID NO: 17
WN RepliVAX
prM
E
NS1
2A
2B
NS3
4A
4B
NS5

Fig. 9



WN RepliVAX p0 **Fig. 10** WN RepliVAX p10






| | | | Replication level |
|---|---|---|---|
| WT | GUCAAUAUGCU(SEQ ID NO:2) | AGCAUAUUGAC(SEQ ID NO:30) | 100 |
| m7 | CUCAAUAUGCU(SEQ ID NO:20) | AGCAUAUUGAG(SEQ ID NO:31) | 2 |
| m8 | GACAAUAUGCU(SEQ ID NO:21) | AGCAUAUUGUC(SEQ ID NO:32) | 3 |
| m9 | GUGAAUAUGCU(SEQ ID NO:22) | AGCAUAUUCAC(SEQ ID NO:33) | 82 |
| m10 | GUCUAUAUGCU(SEQ ID NO:23) | AGCAUAUAGAC(SEQ ID NO:34) | 173 |
| m11 | GUCAUUAUGCU(SEQ ID NO:24) | AGCAUAAUGAC(SEQ ID NO:35) | 69 |
| m12 | GUCAAAAUGCU(SEQ ID NO:25) | AGCAUUUUGAC(SEQ ID NO:36) | 69 |
| m13 | GUCAAUUUGCU(SEQ ID NO:26) | AGCAAAUUGAC(SEQ ID NO:37) | 138 |
| m14 | GUCAAUAUCCU(SEQ ID NO:27) | AGGAUAUUGAC(SEQ ID NO:38) | 24 |
| m15 | GUCAAUAUGGU(SEQ ID NO:28) | ACCAUAUUGAC(SEQ ID NO:39) | 42 |
| m16 | GUCAAUAUGCA(SEQ ID NO:29) | UGCAUAUUGAC(SEQ ID NO:40) | 69 |

**Fig.12A**

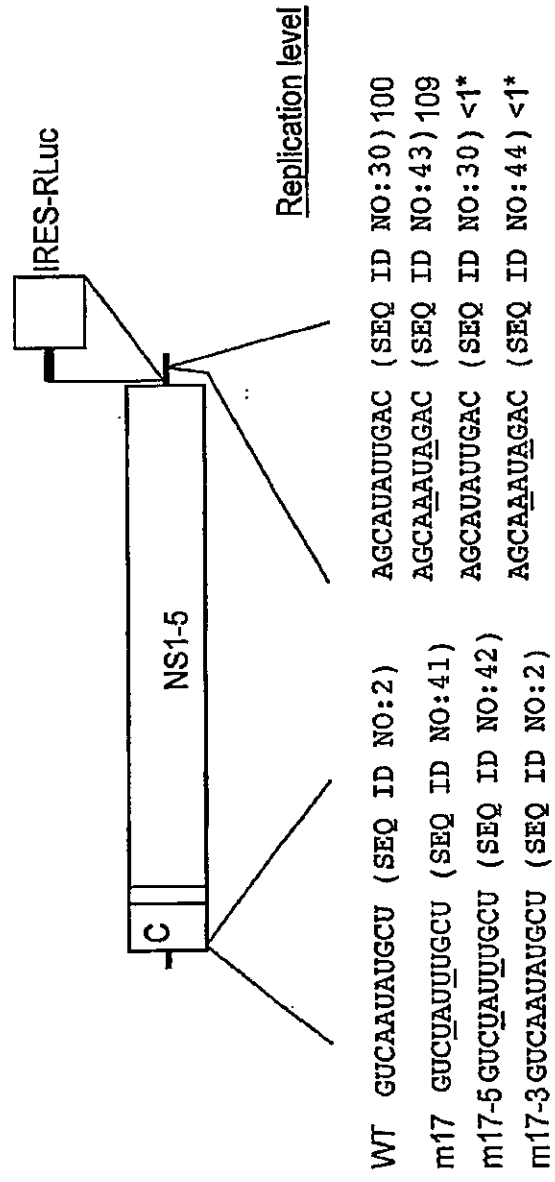

IRES-RLuc
C
NS1-5
Replication level
WT GUCAAUAUGCU (SEQ ID NO:2) AGCAUAUUGAC (SEQ ID NO:30) 100
m17 GUCUAUUUGCU (SEQ ID NO:41) AGCAAAUAGAC (SEQ ID NO:43) 109
m17-5 GUCUAUUUGCU (SEQ ID NO:42) AGCAUAUUGAC (SEQ ID NO:30) <1*
m17-3 GUCAAUAUGCU (SEQ ID NO:2) AGCAAAUAGAC (SEQ ID NO:44) <1*
NC Containing flame shift in NS5

Fig. 12B