

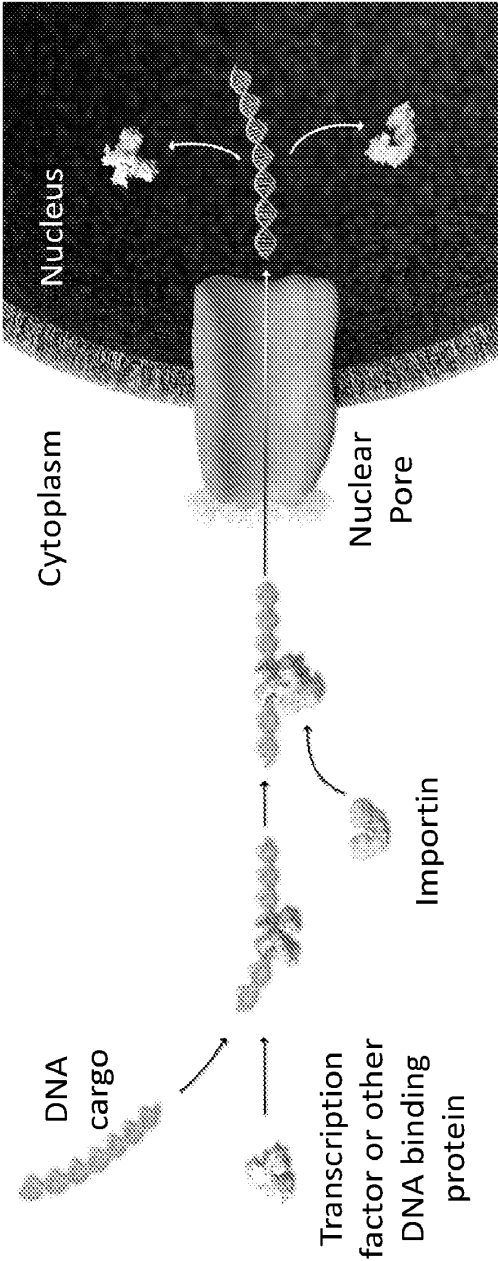
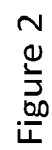


Figure 1



## Figure 2

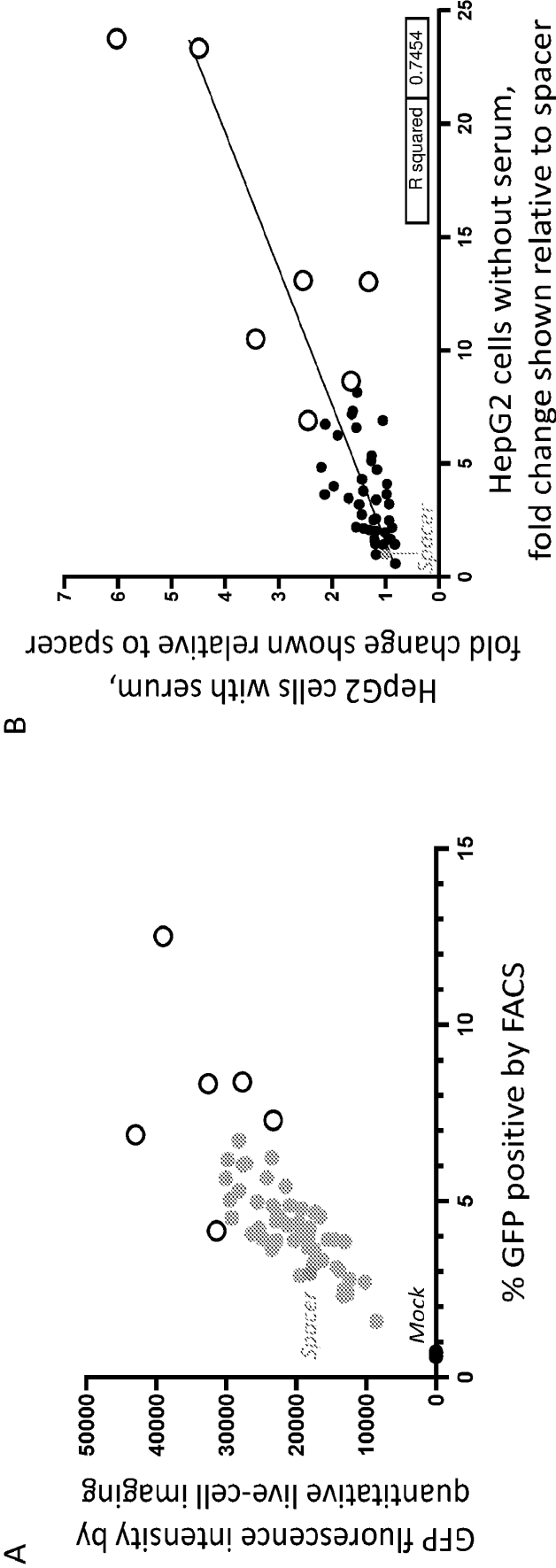


Figure 3

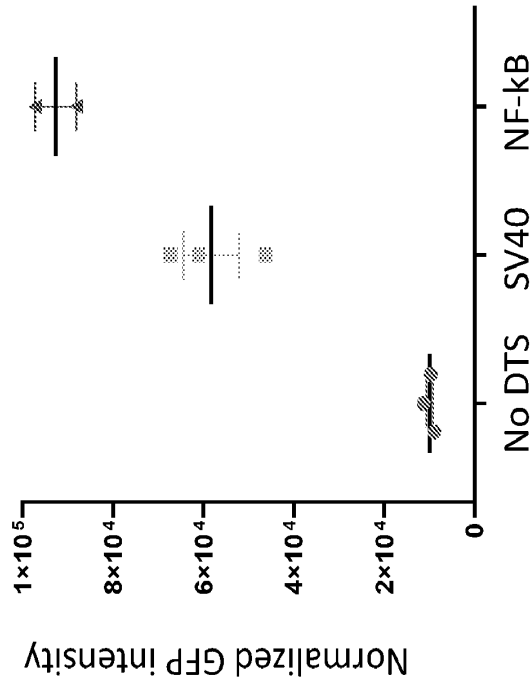


Figure 4

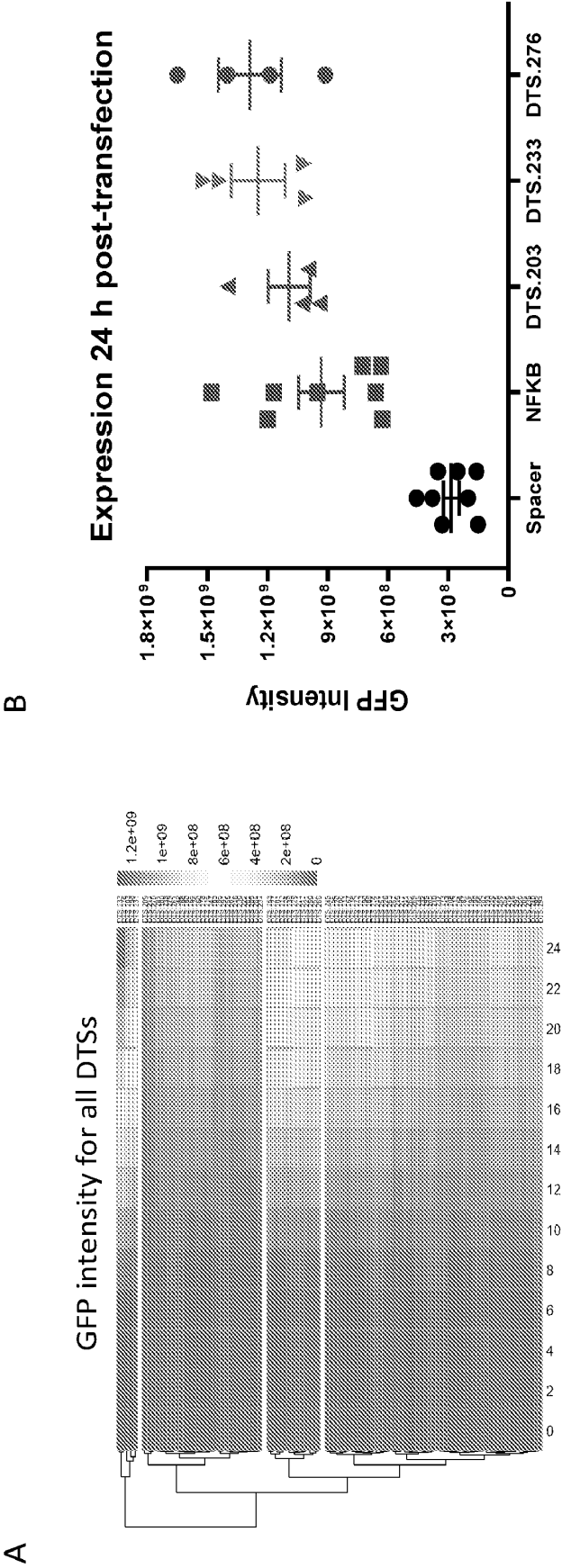


Figure 5

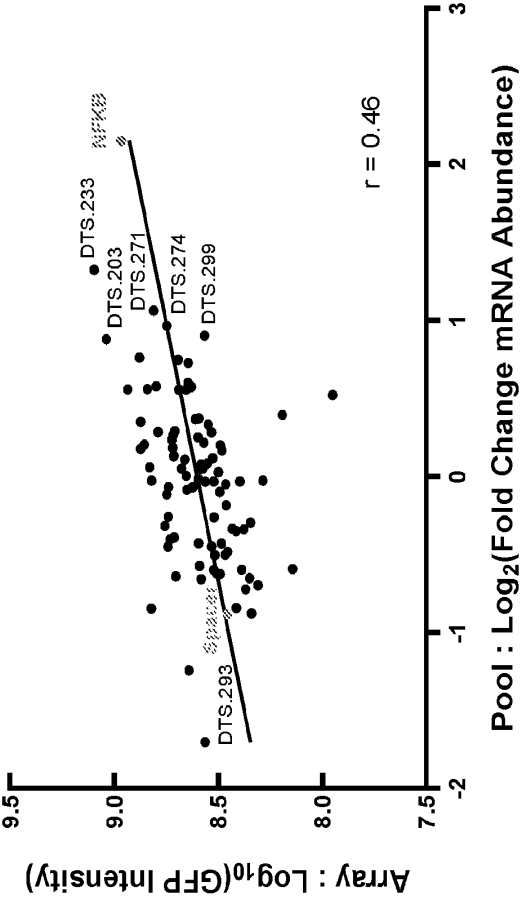


Figure 6

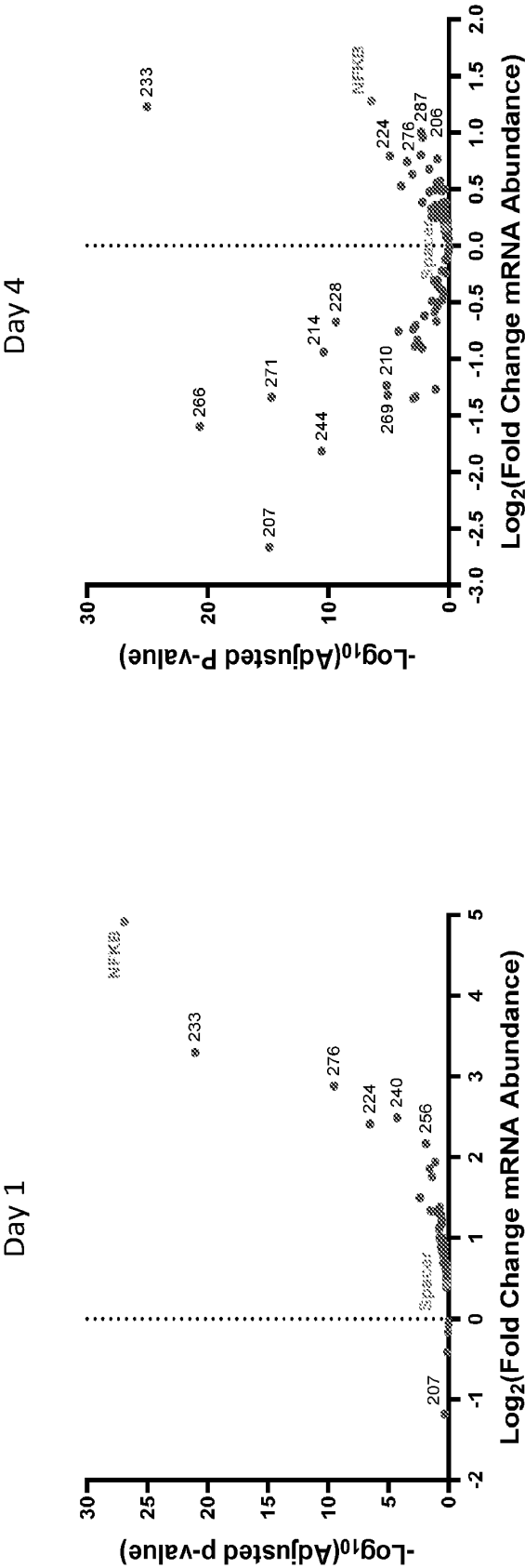


Figure 7A

Figure 7B

| Transcription Factor | Mouse In Vivo Day 1 | Mouse In Vivo Day 4 | Hep G2 CBh Array | Hep G2 CBh Array + Dex | Hep G2 CBh Pool | Hep G2 CBh Pool + Dex | Hep G2 TTR Pool | Hep G2 TTR Pool + Dex |
|----------------------|---------------------|---------------------|------------------|------------------------|-----------------|-----------------------|-----------------|-----------------------|
| HNF1A                | 13%                 | 11%                 | 13%              | 14%                    | 24%             | 15%                   | 10%             | 7%                    |
| PPARA                | 7%                  | 7%                  | 12%              | 5%                     | 18%             | 13%                   | 9%              | 12%                   |
| HNF4A                | 8%                  | 7%                  | 4%               | 10%                    | 15%             | 12%                   | 13%             | 12%                   |
| CEBPA                | 9%                  | 4%                  | 7%               | 4%                     | 2%              | 4%                    | 25%             | 19%                   |
| NR3C1                | 6%                  | 7%                  | 4%               | 18%                    | 1%              | 15%                   | 4%              | 8%                    |
| ONECUT1              | 4%                  | 5%                  | 7%               | 8%                     | 9%              | 7%                    | 3%              | 2%                    |
| TBP                  | 5%                  | 8%                  | 3%               | 10%                    | 1%              | 2%                    | 4%              | 5%                    |
| CREB3L3              | 6%                  | 5%                  | 9%               | 3%                     | 6%              | 3%                    | 5%              | 3%                    |
| MLXIP1               | 1%                  | 1%                  | 2%               | 3%                     | 7%              | 11%                   | 4%              | 10%                   |
| NR1I3                | 6%                  | 11%                 | 6%               | 2%                     | 3%              | 2%                    | 2%              | 2%                    |
| FOXA1                | 4%                  | 2%                  | 1%               | 3%                     | 2%              | 0%                    | 7%              | 12%                   |
| POU2F1               | 1%                  | 6%                  | 10%              | 2%                     | 1%              | 2%                    | 1%              | 1%                    |
| CREB1                | 4%                  | 4%                  | 4%               | 2%                     | 2%              | 3%                    | 2%              | 1%                    |
| NR1I2                | 4%                  | 4%                  | 1%               | 4%                     | 2%              | 2%                    | 1%              | 1%                    |
| ELK1                 | 4%                  | 2%                  | 2%               | 2%                     | 1%              | 0%                    | 4%              | 1%                    |
| SREBF1               | 3%                  | 2%                  | 2%               | 1%                     | 3%              | 3%                    | 0%              | 1%                    |
| NR1H3                | 4%                  | 2%                  | 3%               | 2%                     | 0%              | 1%                    | 0%              | 1%                    |
| ETS1                 | 1%                  | 7%                  | 0%               | 1%                     | 1%              | 1%                    | 1%              | 1%                    |
| VDR                  | 5%                  | 1%                  | 1%               | 1%                     | 0%              | 0%                    | 3%              | 0%                    |
| E2F1                 | 4%                  | 0%                  | 1%               | 1%                     | 0%              | 1%                    | 1%              | 0%                    |

Figure 8

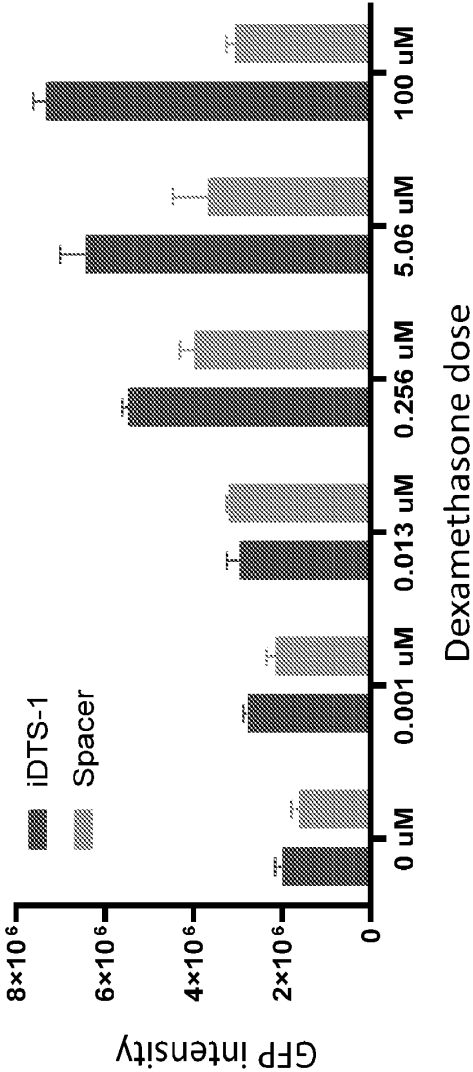


Figure 9

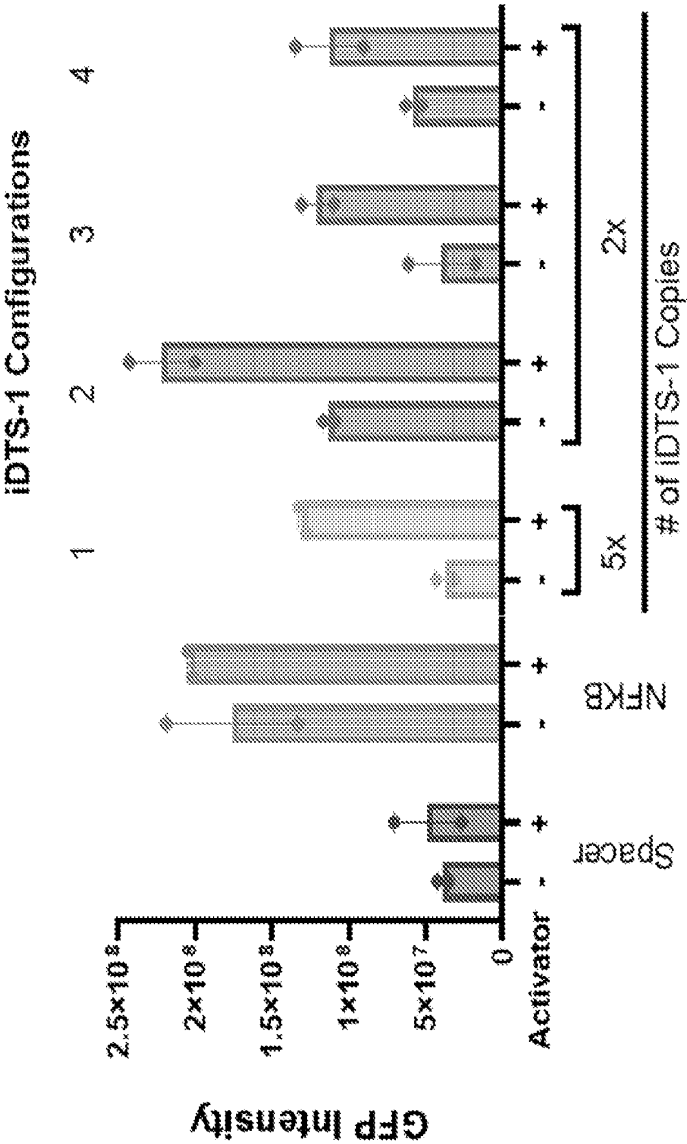


Figure 10

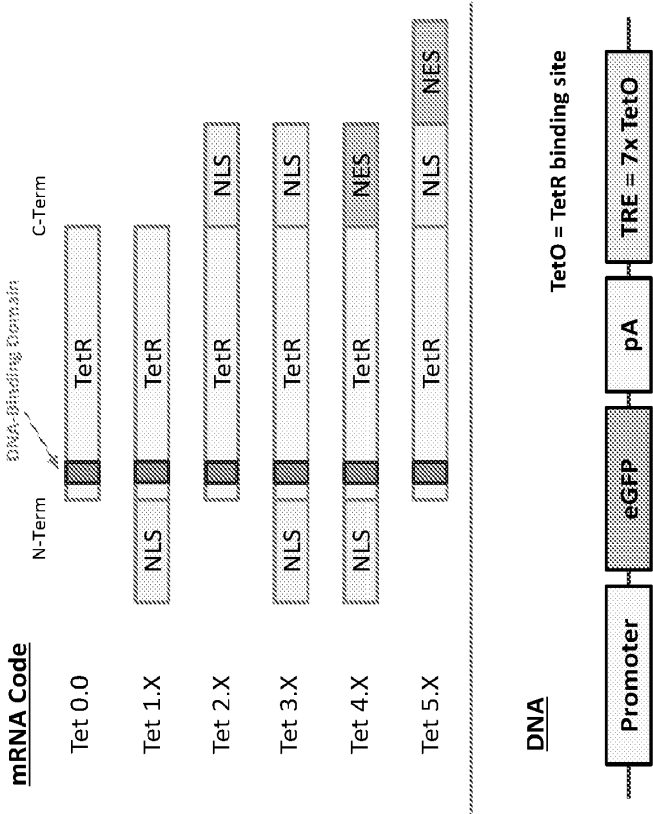


Figure 11A

|                      |         | NLS           |        | NES    |        |
|----------------------|---------|---------------|--------|--------|--------|
|                      |         | N (5')        | C (3') | N (5') | C (3') |
| NO signals           | Tet 0.0 |               |        |        |        |
| N terminus<br>signal | Tet 1.1 | SV40          |        |        |        |
|                      | Tet 1.2 | HIV1vpr1      |        |        |        |
|                      | Tet 1.3 | HIV1vpr2      |        |        |        |
|                      | Tet 1.4 | M9-hnRNP-A1.1 |        |        |        |
|                      | Tet 1.5 | M9-hnRNP-A1.2 |        |        |        |
|                      | Tet 1.6 | SV40opTAA     |        |        |        |
|                      | Tet 1.7 | SV40T         |        |        |        |
|                      | Tet 1.8 | INF-A-georgia |        |        |        |

Figure 11B

|                    |             | NLS    |                                     | NES    |        |
|--------------------|-------------|--------|-------------------------------------|--------|--------|
|                    |             | N (5') | C (3')                              | N (5') | C (3') |
| C terminus signals | Tet 2.1     |        | SV40                                |        |        |
|                    | Tet 2.2     |        | cmYC+INF-A-georgia                  |        |        |
|                    | Tet 2.2 3X  |        | (cmYC+INF-A-georgia) 3X             |        |        |
|                    | Tet 2.3     |        | HIV1vpr2                            |        |        |
|                    | Tet 2.4     |        | M9-hnRNP-A1.1                       |        |        |
|                    | Tet 2.5     |        | M9-hnRNP-A1.2                       |        |        |
|                    | Tet 2.6     |        | Sv40opTAA                           |        |        |
|                    | Tet 2.6 3X  |        | (SV40opTAA) 3X                      |        |        |
|                    | Tet 2.7     |        | SV40T                               |        |        |
|                    | Tet 2.7 3X  |        | (SV40T) 3X                          |        |        |
|                    | Tet 2.10    |        | NMD3                                |        |        |
|                    | Tet 2.10 3X |        | (NMD3) 3X                           |        |        |
|                    | Tet 2.11    |        | (cmYC+INF-A-georgia)-SV40T          |        |        |
|                    | Tet 2.12    |        | (cmYC+INF-A-georgia)-SV40T-NMD3     |        |        |
|                    | Tet 2.13    |        | HIV1vpr2-HNrnP                      |        |        |
|                    | Tet 2.14    |        | (cmYC+INF-A-georgia)-Sv40opTAA-NMD3 |        |        |
|                    | Tet 2.16    |        | cmYC                                |        |        |
|                    | Tet 2.17    |        | INF-A-georgia                       |        |        |

Figure 11C

|                      |         | NLS           |                    | NES    |        |
|----------------------|---------|---------------|--------------------|--------|--------|
|                      |         | N (5')        | C (3')             | N (5') | C (3') |
| Signals at both ends | Tet 3.1 | SV40          | cmyc+INF-A-georgia |        |        |
|                      | Tet 3.2 | SV40          | SV40               |        |        |
|                      | Tet 3.3 | BPNLS         | cmyc+INF-A-georgia |        |        |
|                      | Tet 3.4 | INF-A-georgia | HIV1vpr2           |        |        |
|                      | Tet 3.5 | SV40opTAA     | HIV1vpr2-HNrp      |        |        |
|                      | Tet 3.6 | HIV1vpr3      | HIV1vpr3           |        |        |

Figure 11D

|                               |         | NLS    |        |  | NES    |          |
|-------------------------------|---------|--------|--------|--|--------|----------|
|                               |         | N (5') | C (3') |  | N (5') | C (3')   |
| Import +<br>Export<br>signals | Tet 4.1 |        | SV40   |  | PKIa   |          |
|                               | Tet 4.2 | SV40   |        |  |        | PKIa     |
|                               | Tet 4.3 | SV40   |        |  |        | HIV NES  |
|                               | Tet 4.4 | HIV    |        |  |        | SV40 NES |

Figure 11E

|                                          |          | NLS    |                    | NES    |          |
|------------------------------------------|----------|--------|--------------------|--------|----------|
|                                          |          | N (5') | C (3')             | N (5') | C (3')   |
| C terminus<br>import +<br>export signals | Tet 5.1  |        | NMD3_NLS           |        | NMD3_NES |
|                                          | Tet 5.2  |        | SV40T              |        | NMD3_NES |
|                                          | Tet 5.3  |        | NMD3_NLS           |        | PKIa     |
|                                          | Tet 5.4  |        | SV40T              |        | HIV NES  |
|                                          | Tet 5.5  |        | cmyc+INF-A-georgia |        | PKIa     |
|                                          | Tet 5.6  |        | cmyc+INF-A-georgia |        | HIV NES  |
|                                          | Tet 5.7  |        | NMD3_NLS           |        | HIV NES  |
|                                          | Tet 5.8  |        | cmyc+INF-A-georgia |        | NMD3_NES |
|                                          | Tet 5.9  |        | Sv40opTAA          |        | NMD3_NES |
|                                          | Tet 5.10 |        | Sv40opTAA          |        | HIV NES  |
|                                          | Tet 5.11 |        | SV40T              |        | PKIa     |
|                                          | Tet 5.12 |        | Sv40opTAA          |        | PKIa     |

Figure 11F

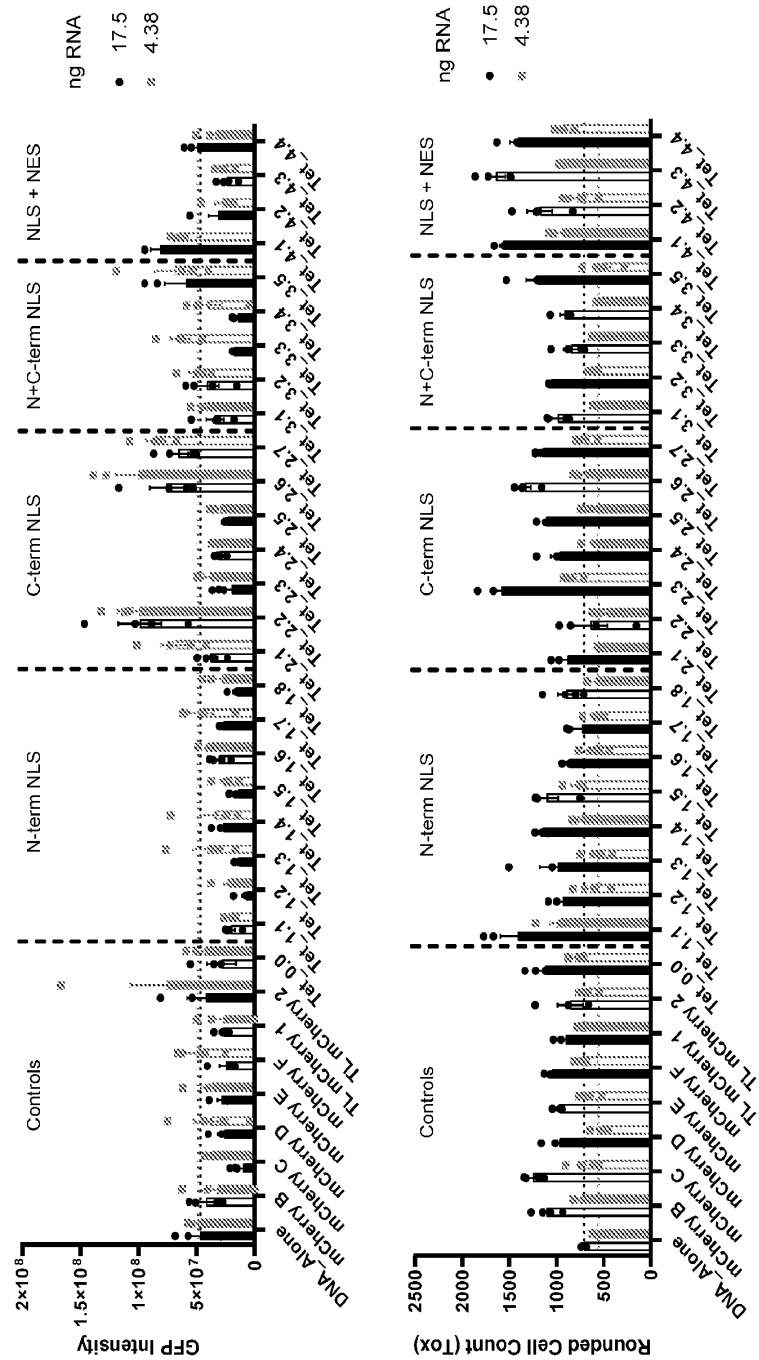
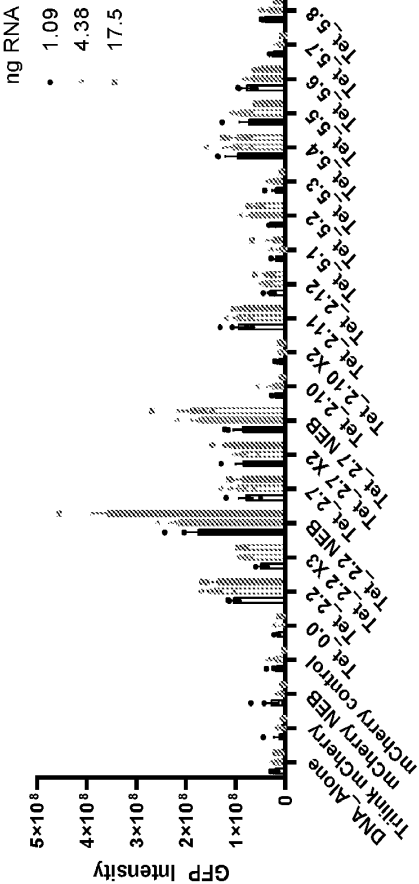


Figure 12

pDNA



dbDNA

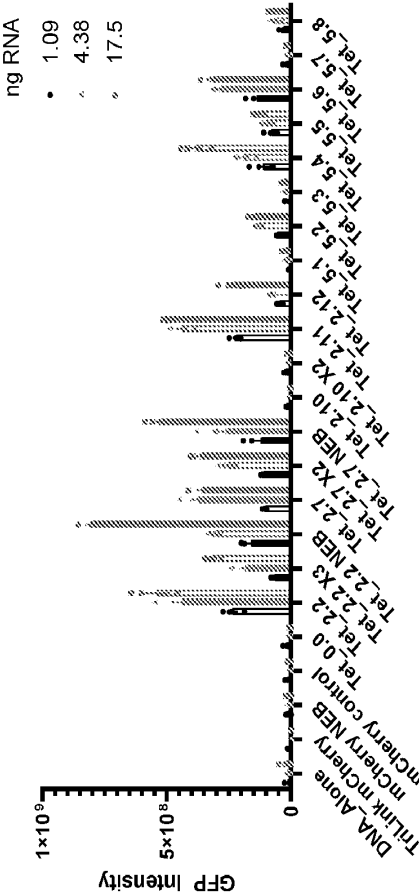


Figure 13B

Figure 13A

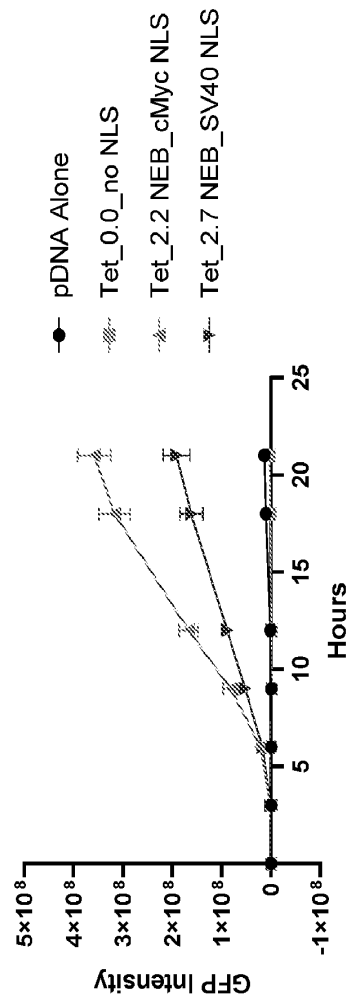


Figure 13D

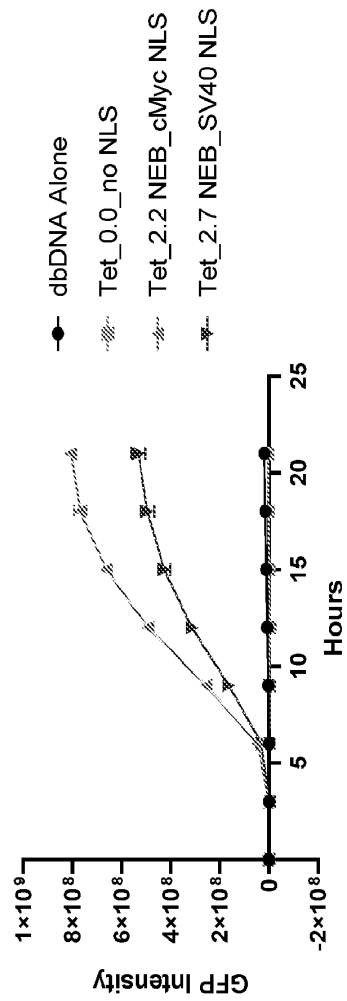


Figure 13E

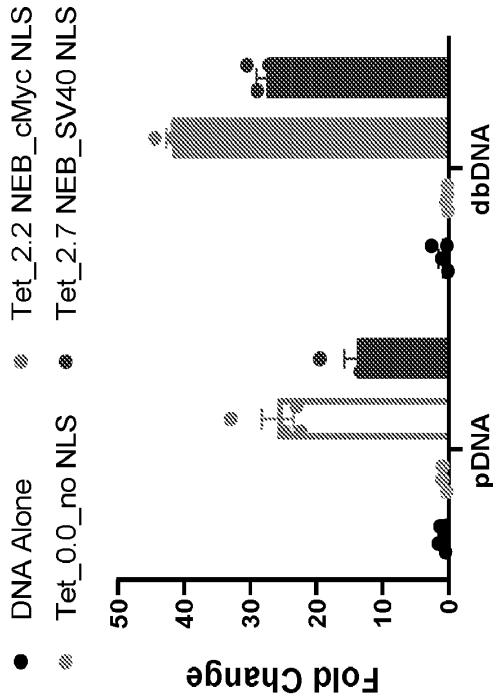


Figure 13C

dbDNA containing TetO

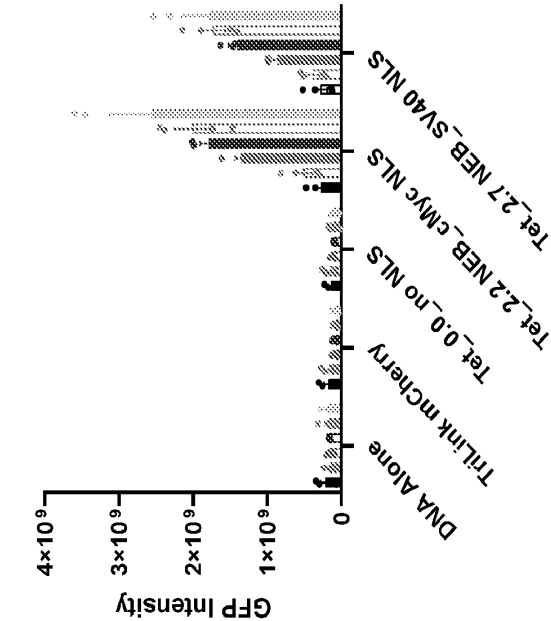


Figure 14A

dbDNA without TetO

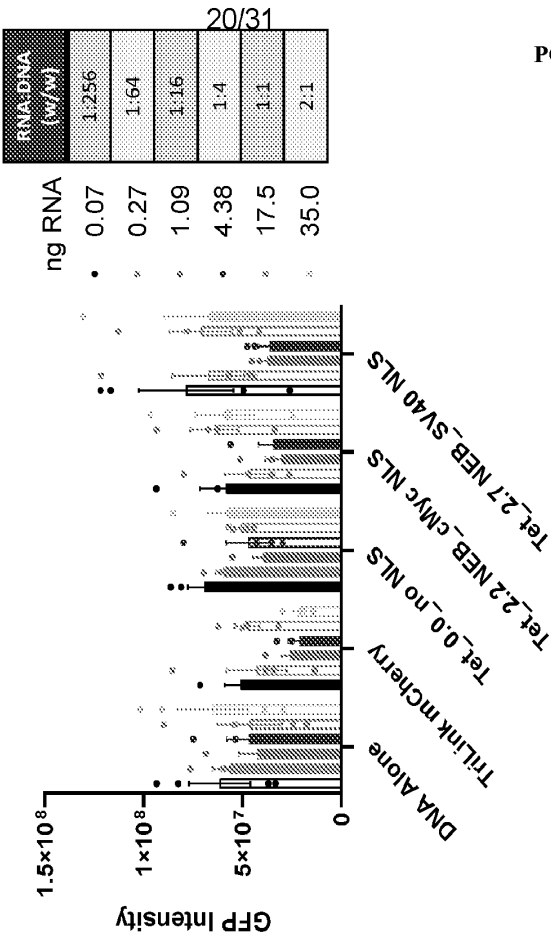


Figure 14B

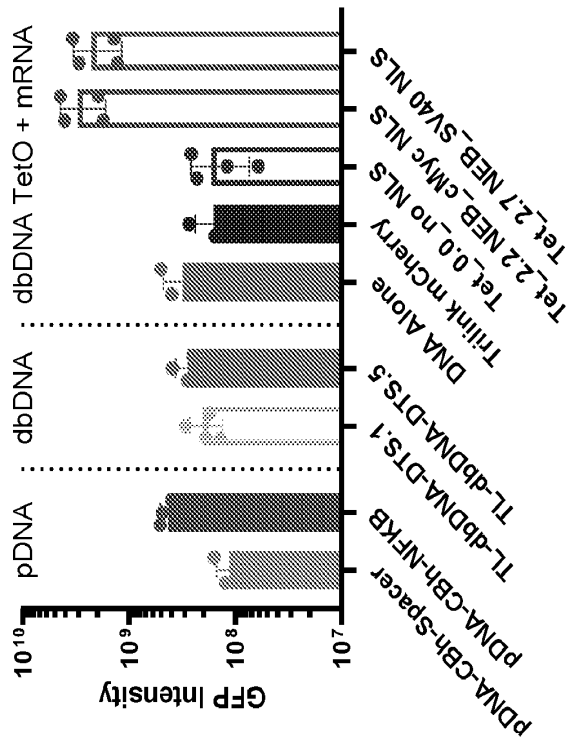


Figure 14D

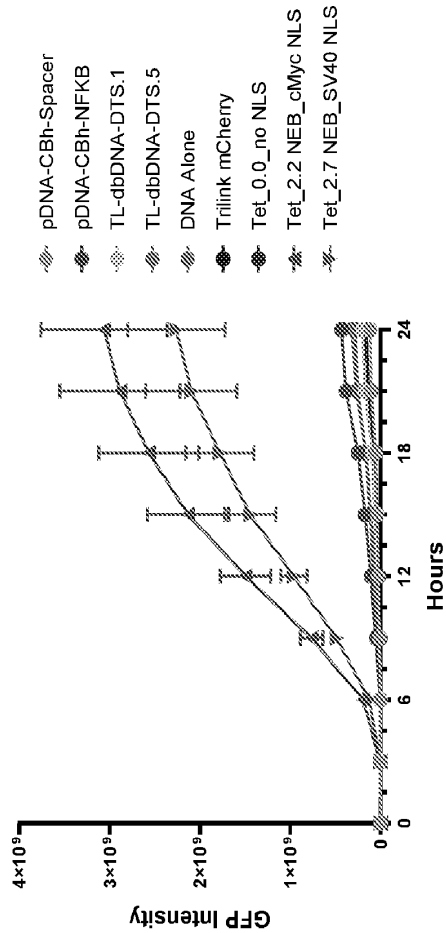


Figure 14C

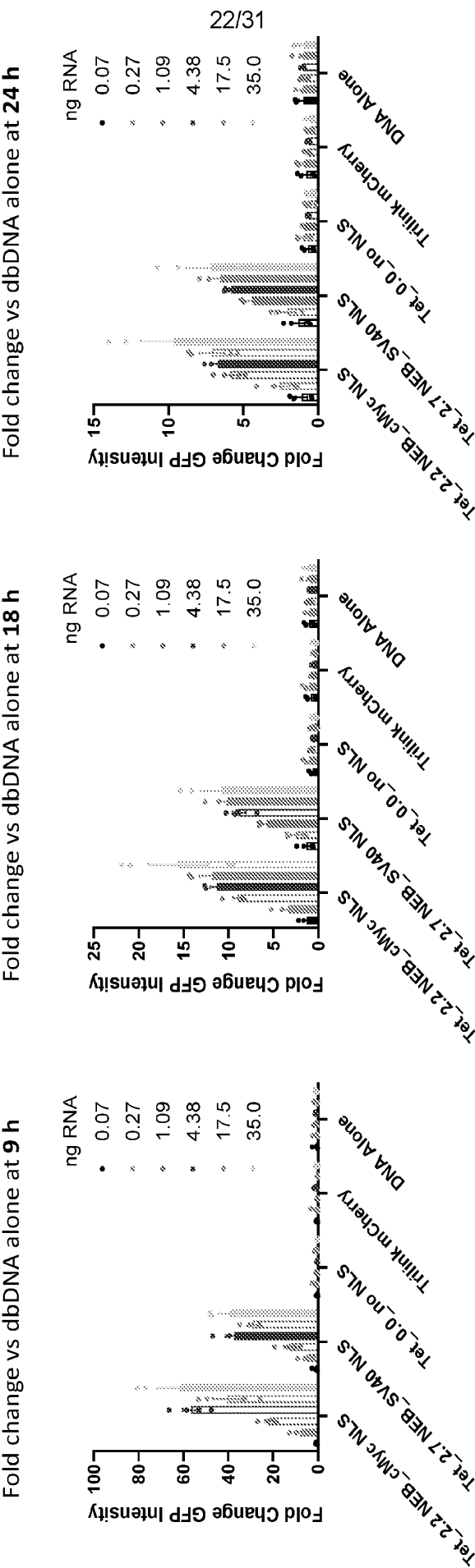


Figure 14G

Figure 14F

Figure 14E

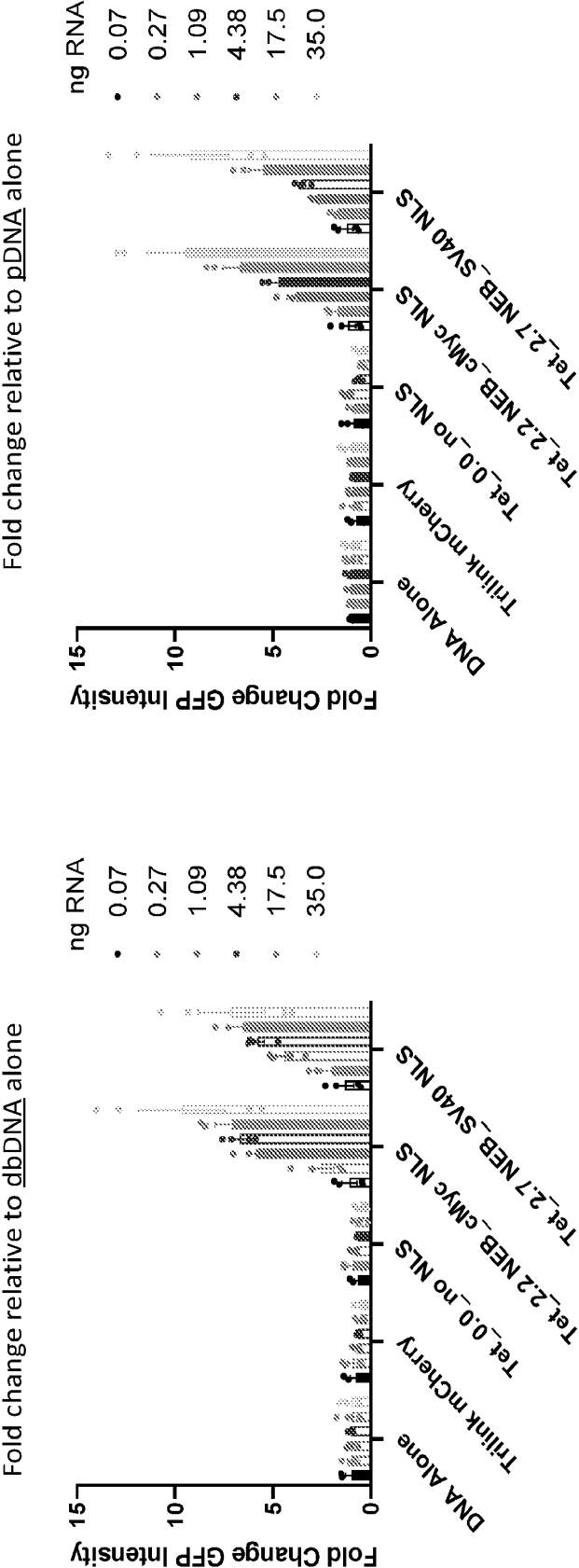


Figure 14I

Figure 14H

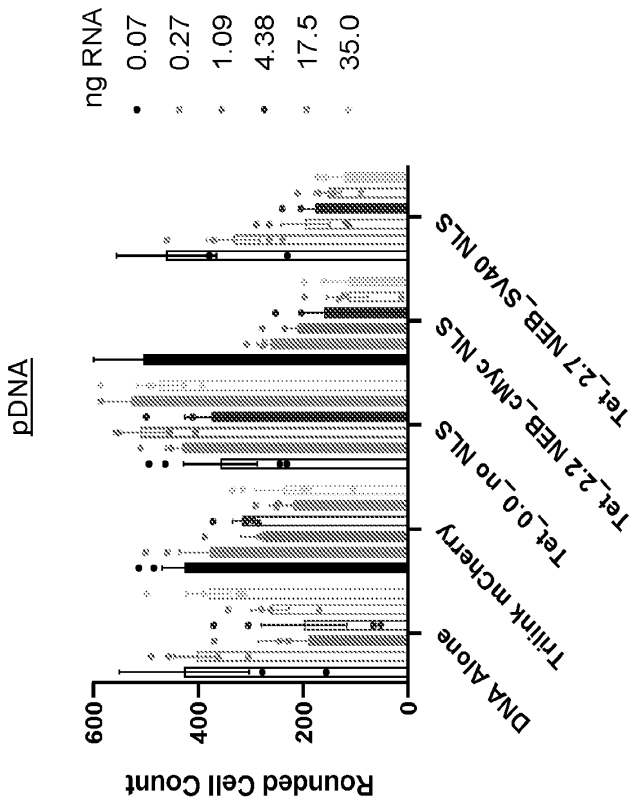


Figure 14K

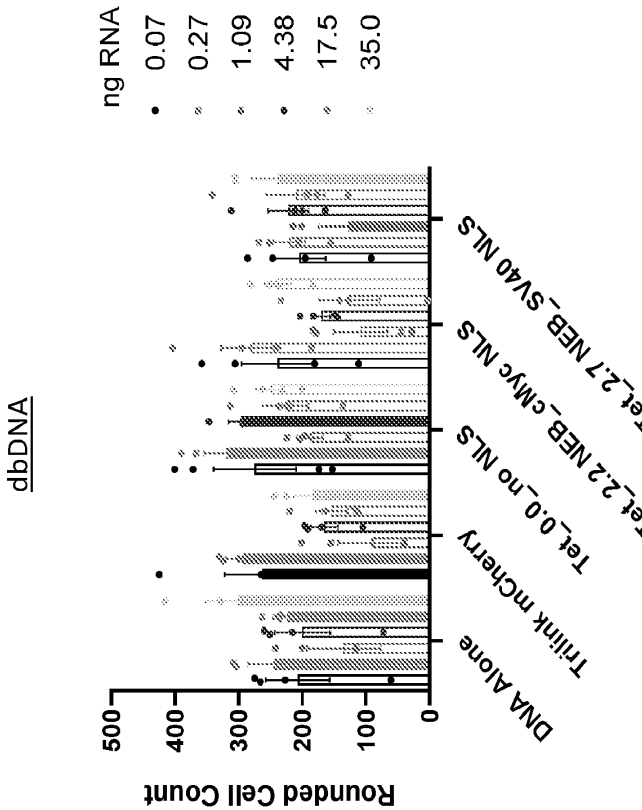


Figure 14J

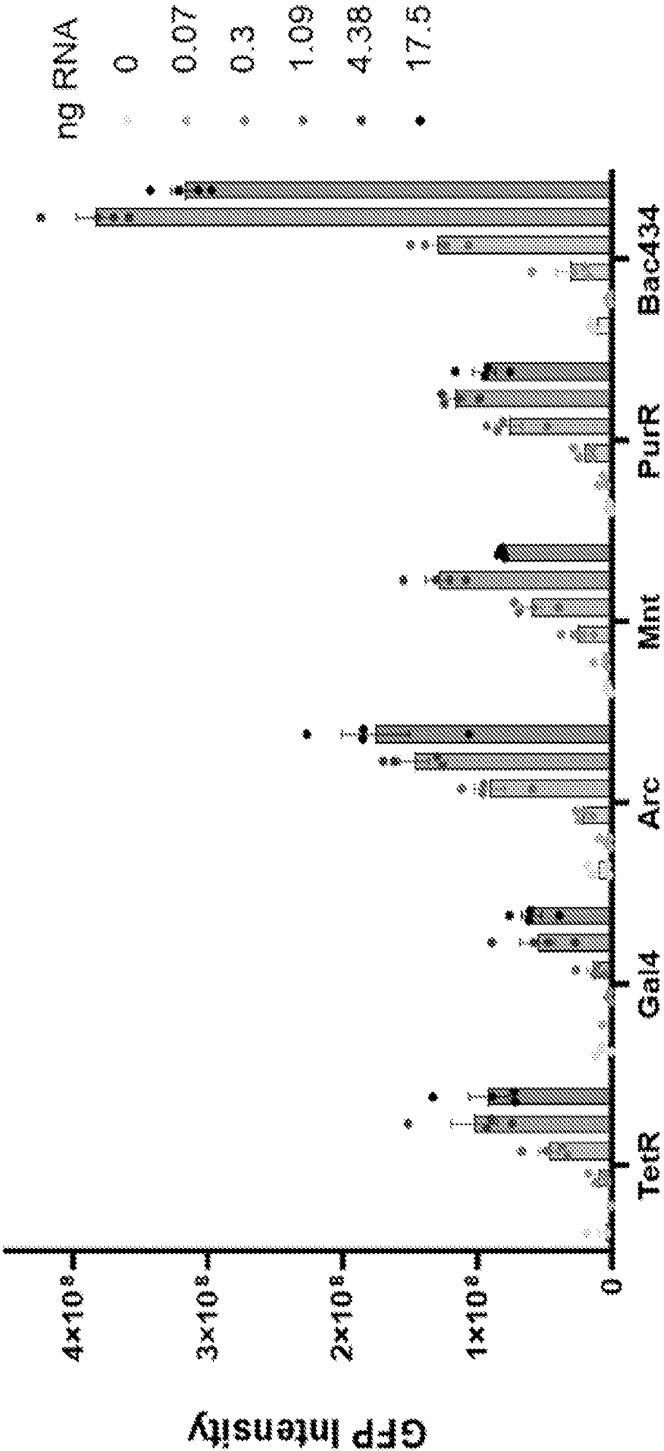


Figure 15A

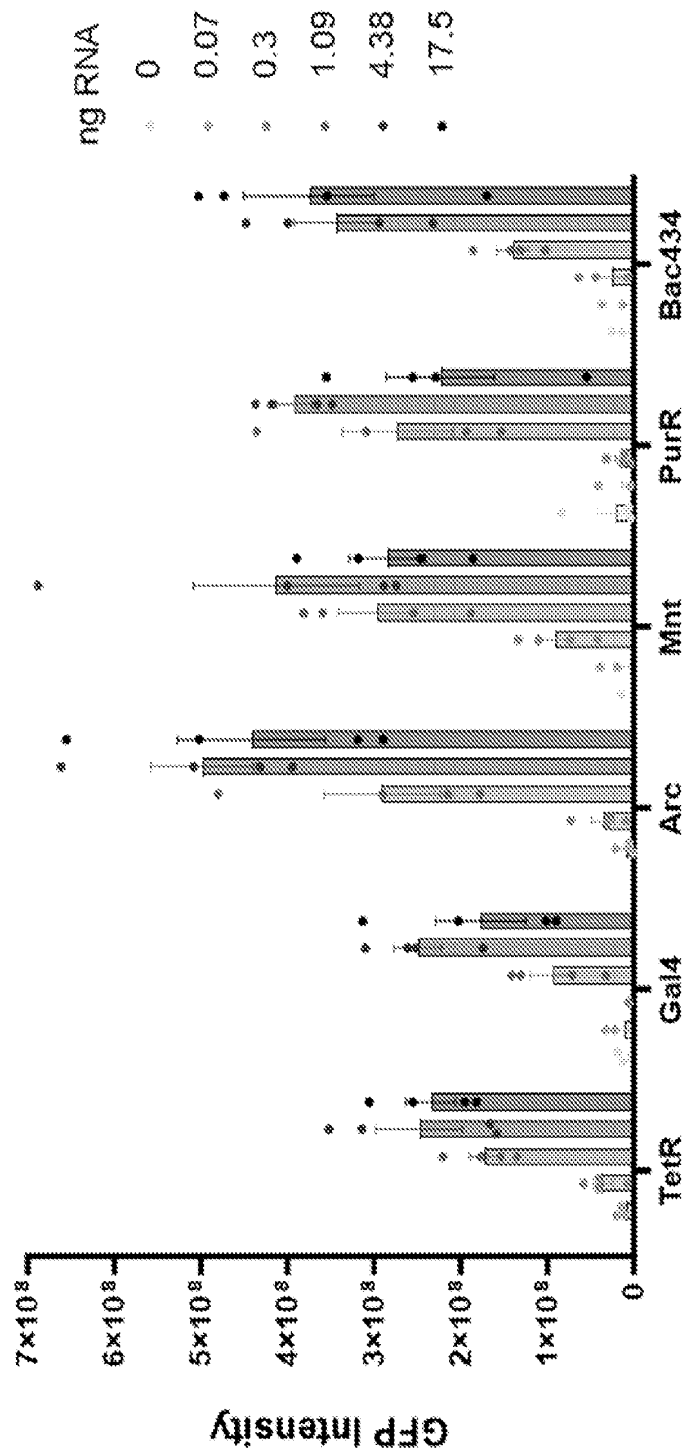


Figure 15B

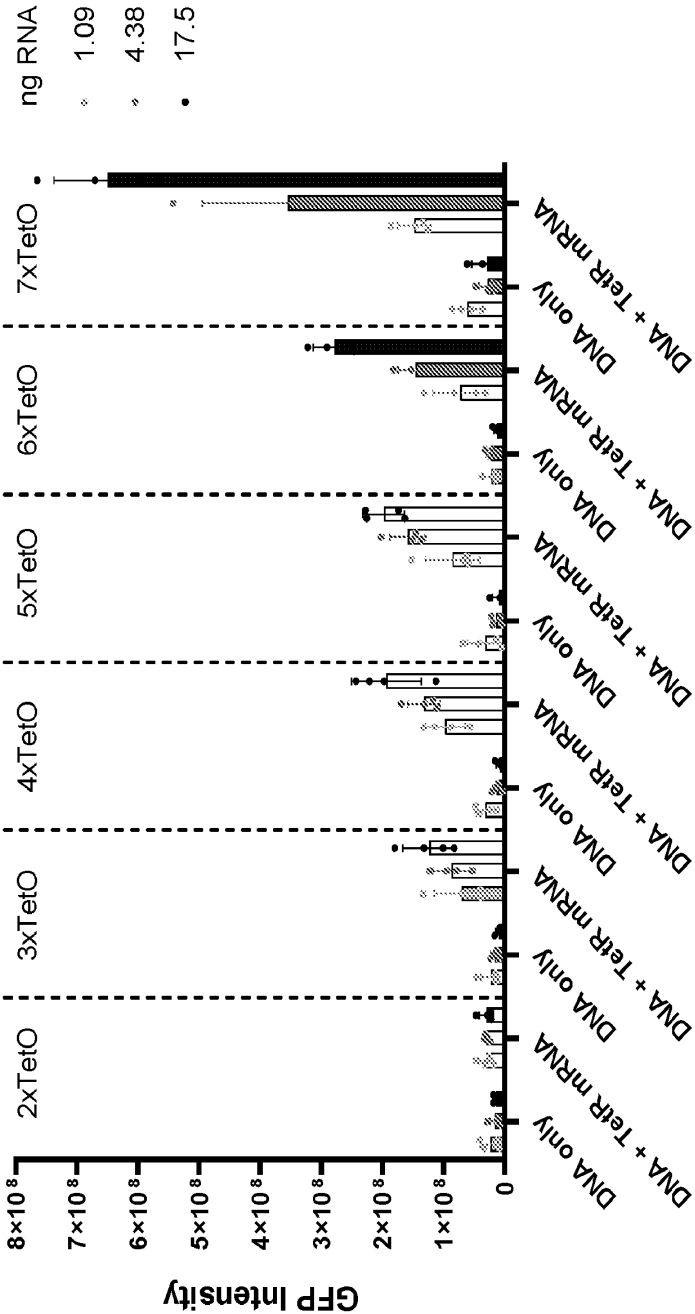


Figure 16A

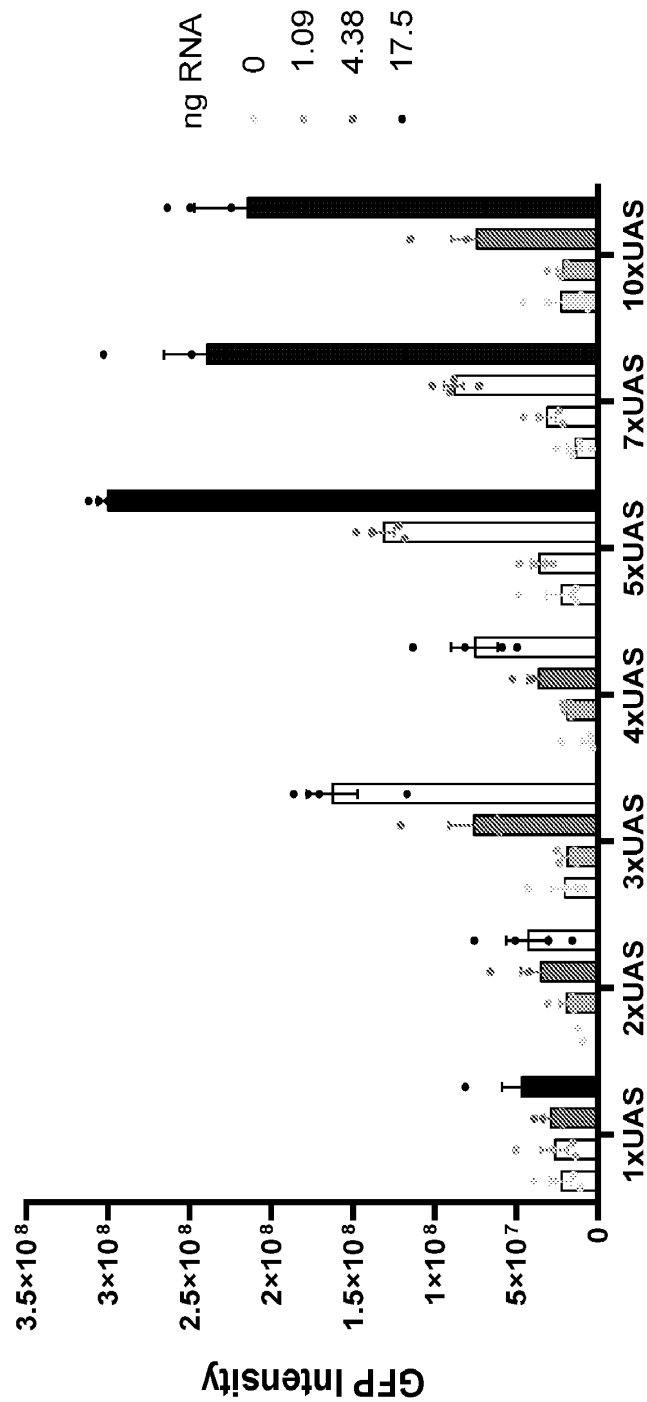


Figure 16B

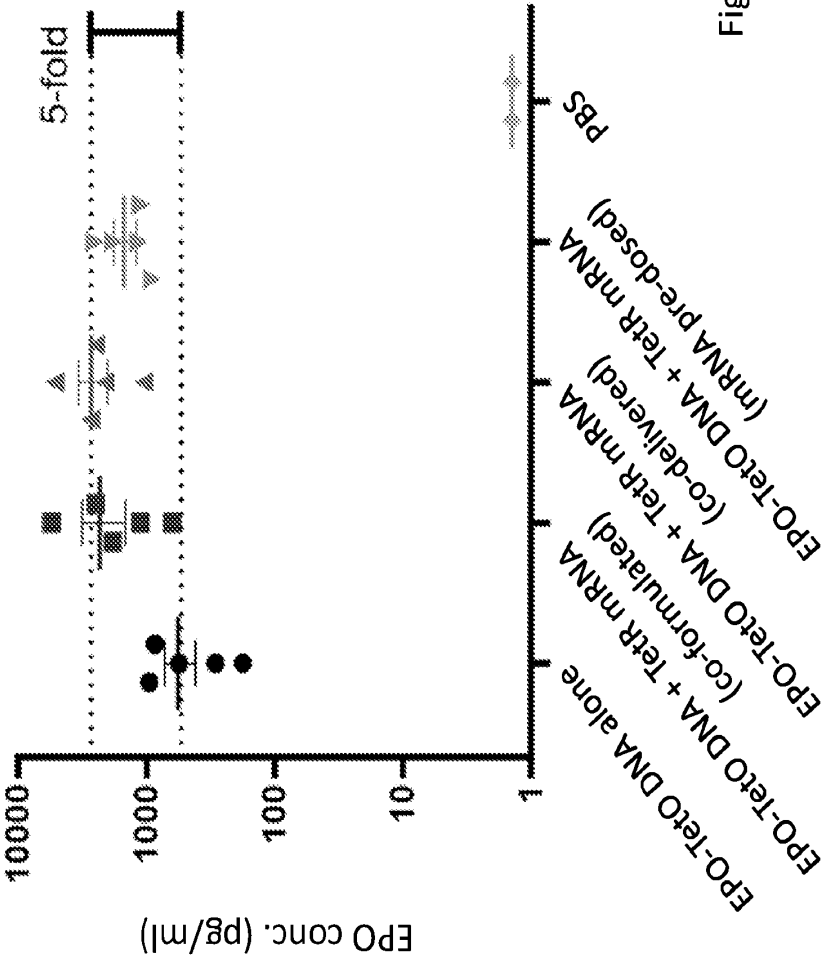


Figure 17

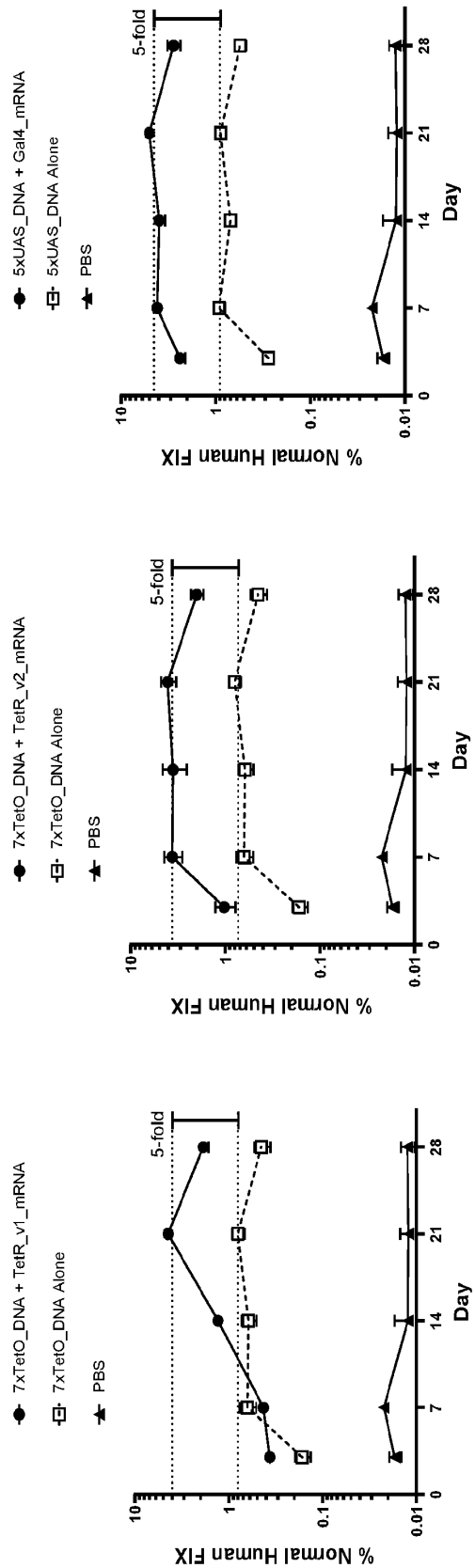


Figure 18A

Figure 18B

Figure 18C

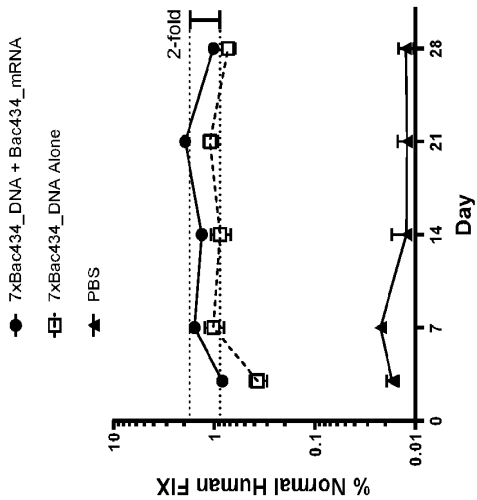


Figure 18F

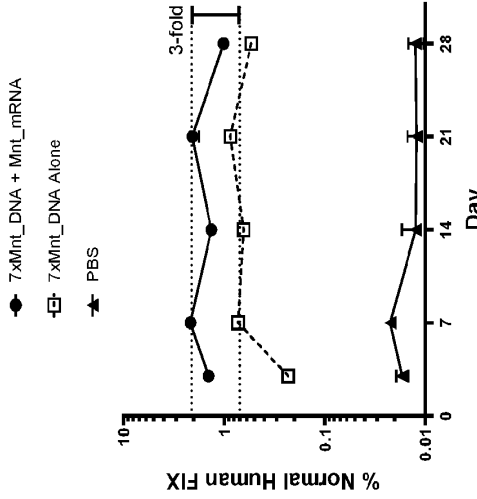


Figure 18E

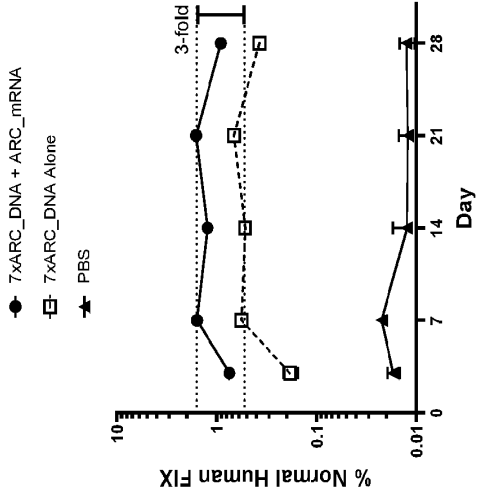


Figure 18D