

FIG. 1

# Polynucleotide cassette constructs

| Cassette No. | First Enhancer | Promoter     | Intron       | 5'UTR |      | Gene            | Second Enhancer | RNA Export | polyA          |
|--------------|----------------|--------------|--------------|-------|------|-----------------|-----------------|------------|----------------|
| 1            | EF1 $\alpha$   | EF1a         |              | TPL   | eMLP | Coding Sequence | Full EES        | HPRE       | HGH            |
| 2            |                | EF1a         | EF1 $\alpha$ | UTR2  |      | Coding Sequence | 410-564 EES     | WPRE       | HGH            |
| 3            | EF1 $\alpha$   | EF1a         | EF1 $\alpha$ | UTR2  |      | Coding Sequence | 511-810 EES     |            | BGH            |
| 4            | EF1 $\alpha$   | EF1a         | EF1 $\alpha$ | UTR1  |      | Coding Sequence | 511-810 EES     |            | $\beta$ Globin |
| 5            | CMV            | GAPDH        |              | UTR1  |      | Coding Sequence | 511-810 EES     | HPRE       | HGH            |
| 6            | CMV            | GAPDH        |              | TPL   | eMLP | Coding Sequence | 410-564 EES     | WPRE       | $\beta$ Globin |
| 7            | CMV            | Actin        | Actin        | UTR1  |      | Coding Sequence | 410-564 EES     | HPRE       | BGH            |
| 8            | CMV            | Actin        | Actin        | TPL   | eMLP | Coding Sequence | 410-564 EES     |            | $\beta$ Globin |
| 9            | CMV            | EF1a         | EF1 $\alpha$ | UTR1  |      | Coding Sequence | 410-564 EES     |            | HGH            |
| 10           | CMV            | EF1a         | EF1 $\alpha$ | UTR2  |      | Coding Sequence | 511-810 EES     | WPRE       | BGH            |
| 11           | CMV            | CMV          |              | TPL   | eMLP | Coding Sequence | Full EES        |            | HGH            |
| 12           | CMV            | CMV          |              | TPL   | eMLP | Coding Sequence | 410-564 EES     | HPRE       | BGH            |
| 13           | CMV            | Actin        |              |       | eMLP | Coding Sequence | 511-810 EES     | HPRE       | $\beta$ Globin |
| 14           | CMV            | CMV          | CMVc         | UTR1  |      | Coding Sequence | Full EES        | WPRE       | $\beta$ Globin |
| 15           | CMV            | CMV          |              | UTR2  |      | Coding Sequence | Full EES        | HPRE       | $\beta$ Globin |
| 16           | CMV            | CMV          |              | UTR1  |      | Coding Sequence | Full EES        | WPRE       | BGH            |
| 17           | CMV            | GAPDH        | CMVc         |       |      | Coding Sequence | 511-810 EES     | WPRE       | HGH            |
| 18           | CMV            | Actin        |              |       | eMLP | Coding Sequence | Full EES        |            | BGH            |
| Base plasmid | CMV            | EF1 $\alpha$ | EF1 $\alpha$ |       |      | Coding Sequence |                 |            | Rb Globin      |

FIG. 2

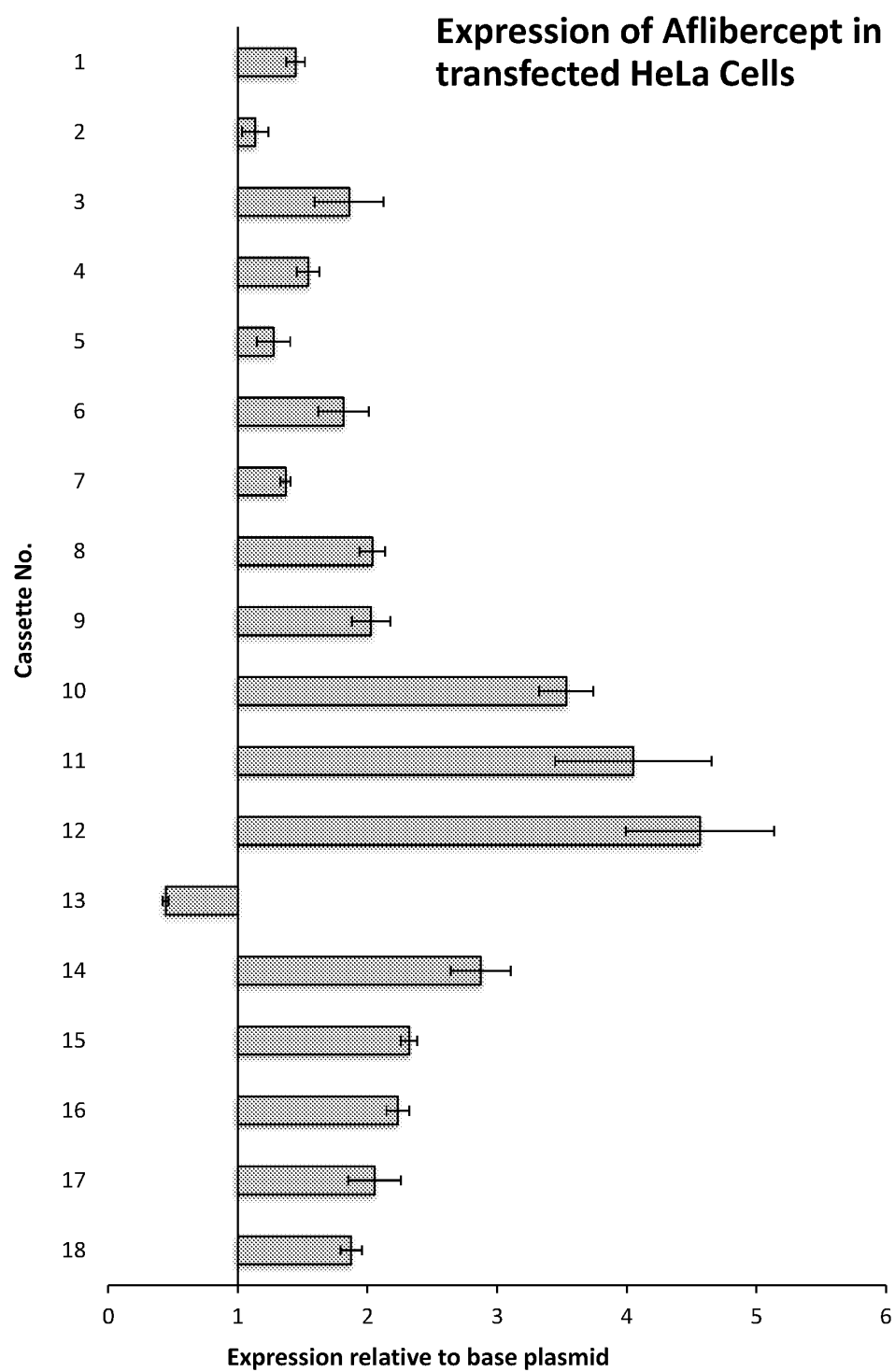


FIG. 3

**Expression of Aflibercept from  
transduced in HEK293 Cells**

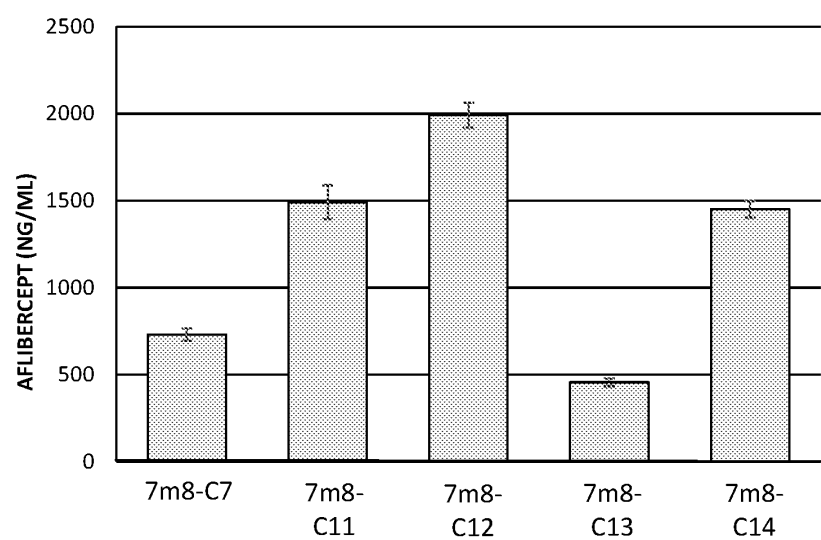


FIG. 4A

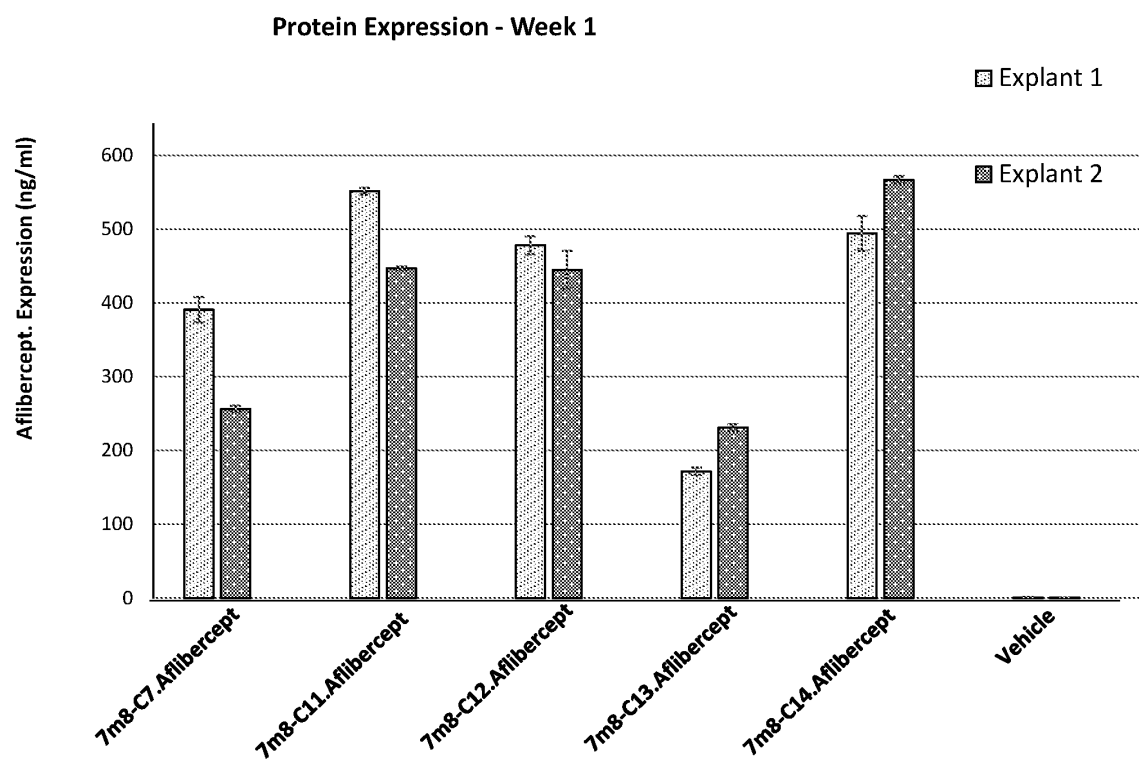


FIG. 4B

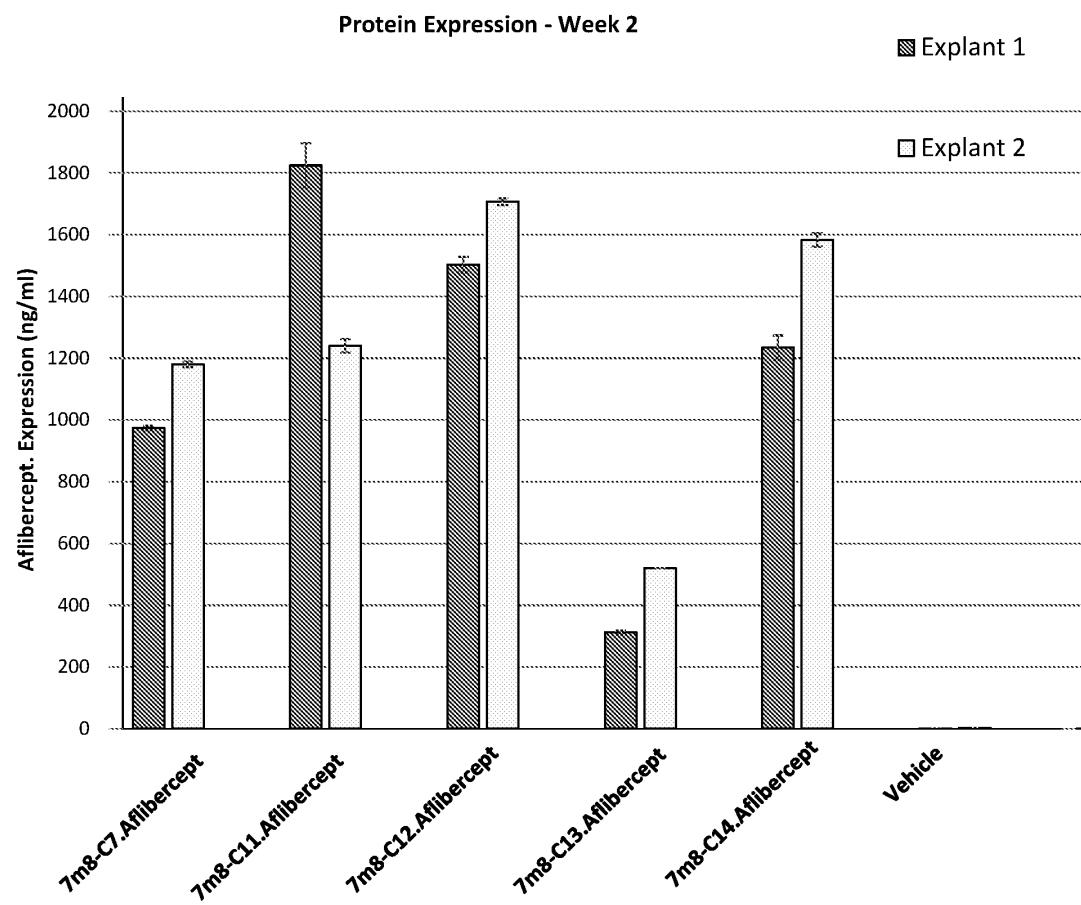


FIG. 5

Expression of sFLT1 in transfected ARPE19 cells

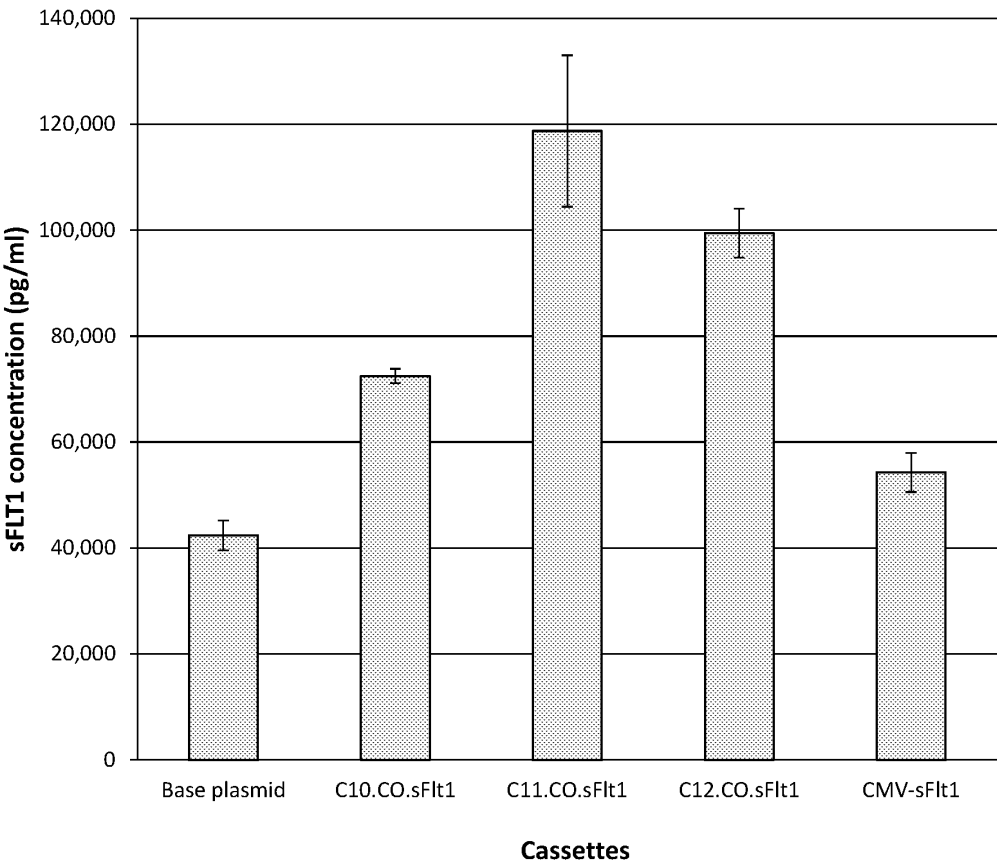


FIG. 6

Expression of sFLT1 in transfected HEK293 cells

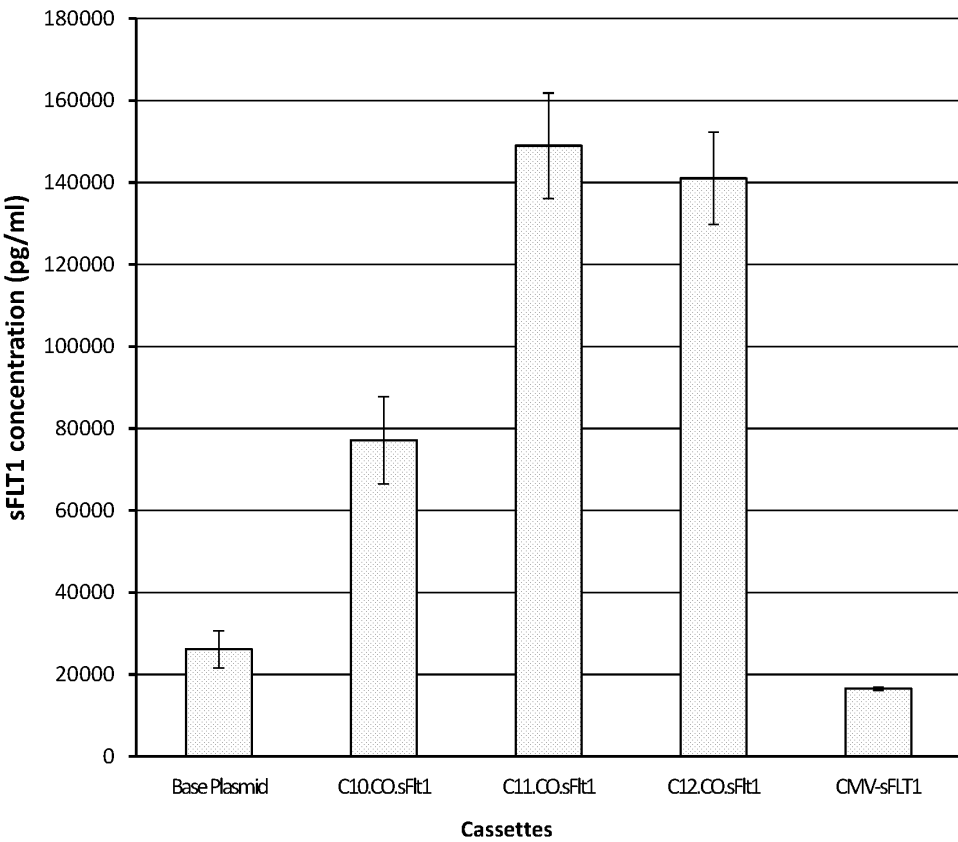


FIG. 7

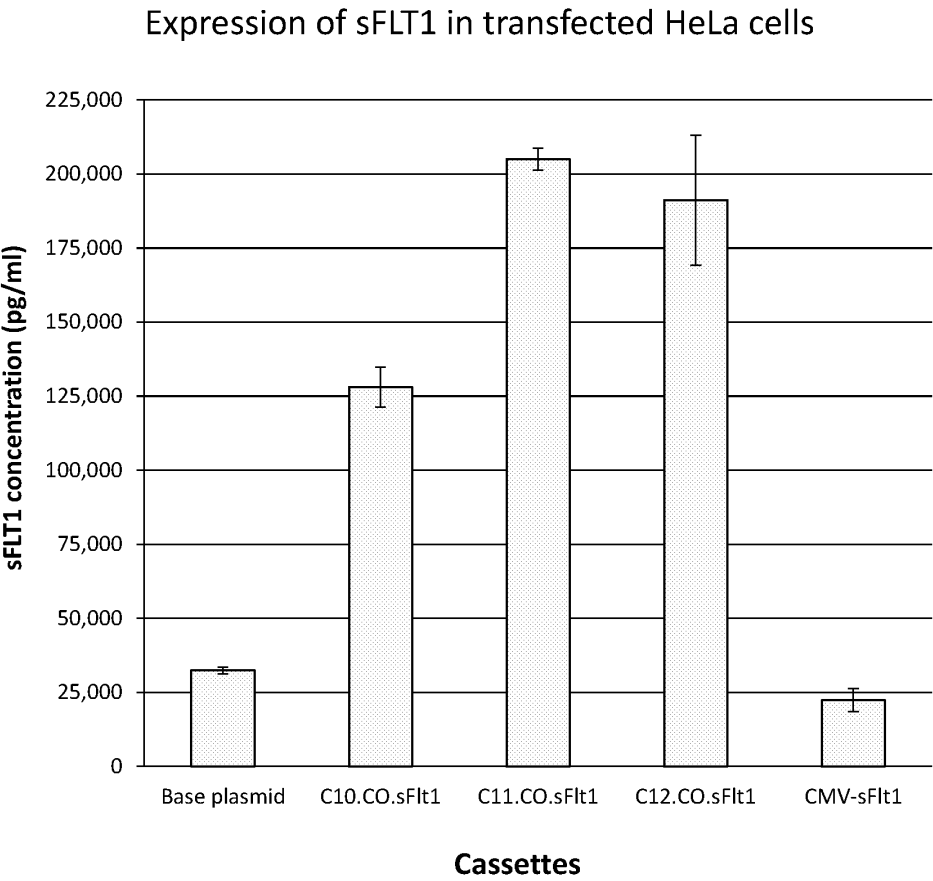


FIG. 8

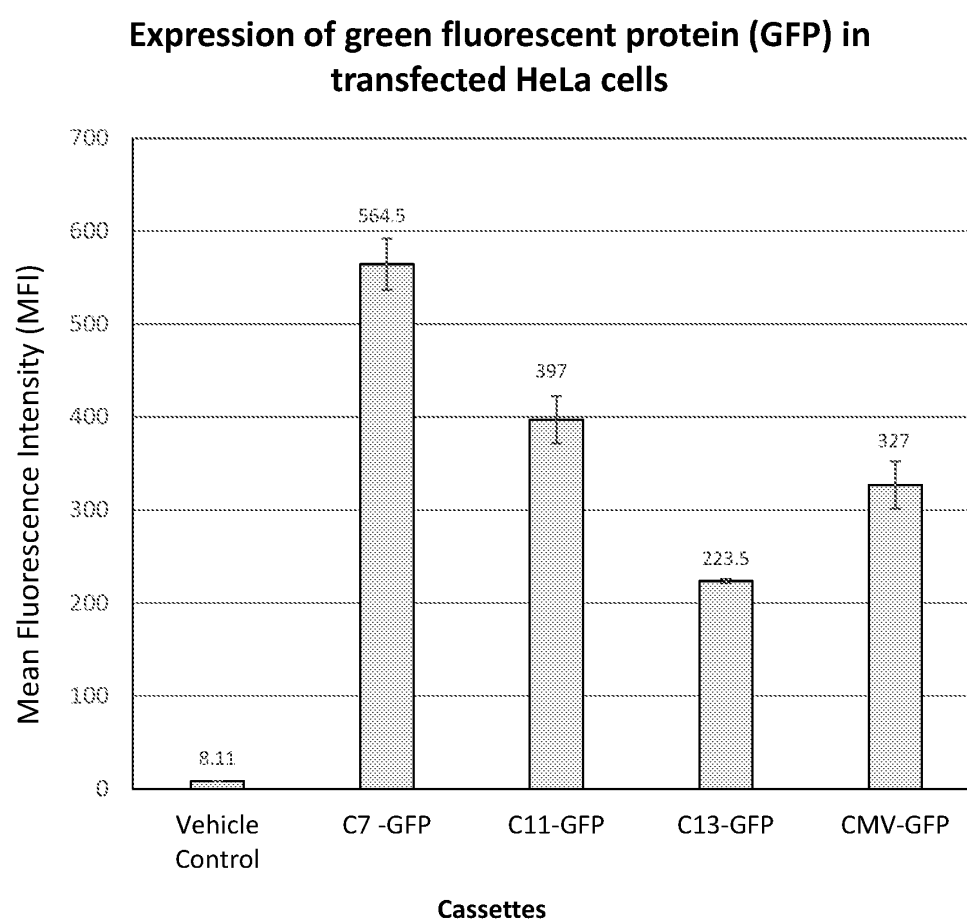
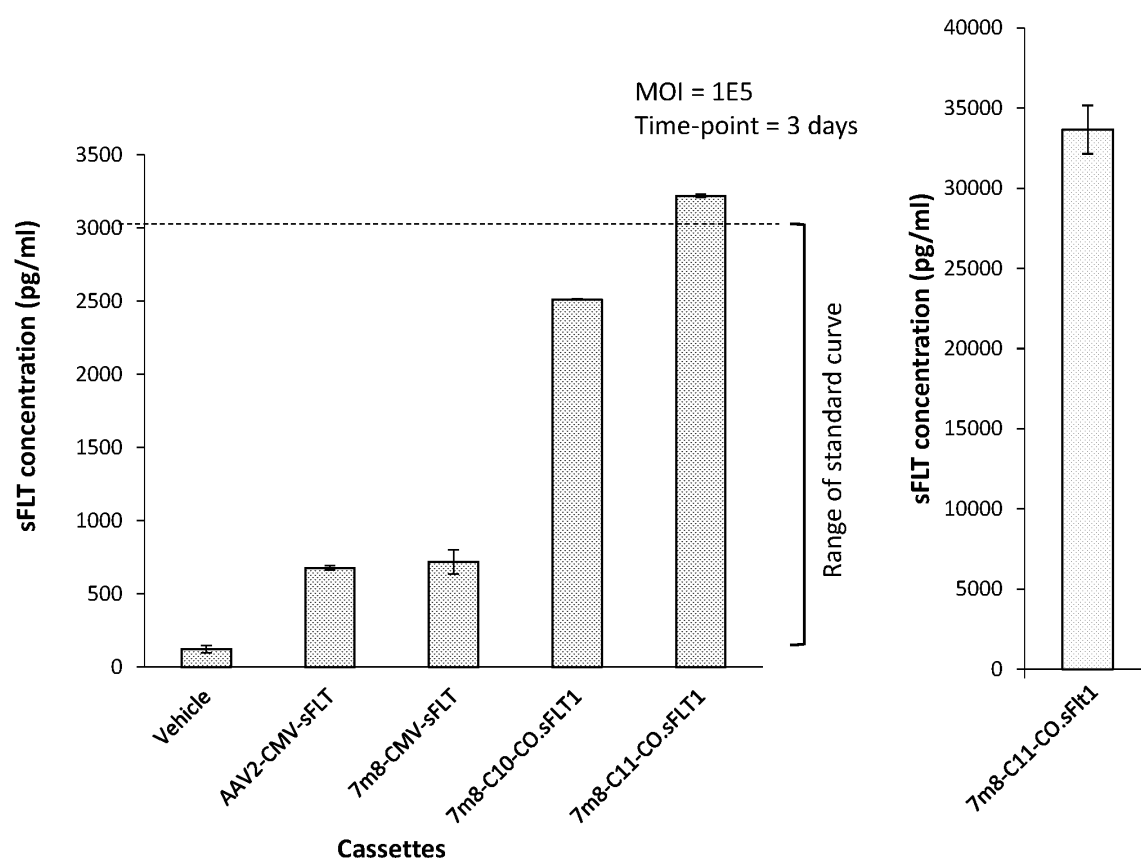


FIG. 9

**Expression of sFLT1 in transduced HEK293 cells**

**Expression of sFLT1 from transduced pig retinal explants**

FIG. 10A

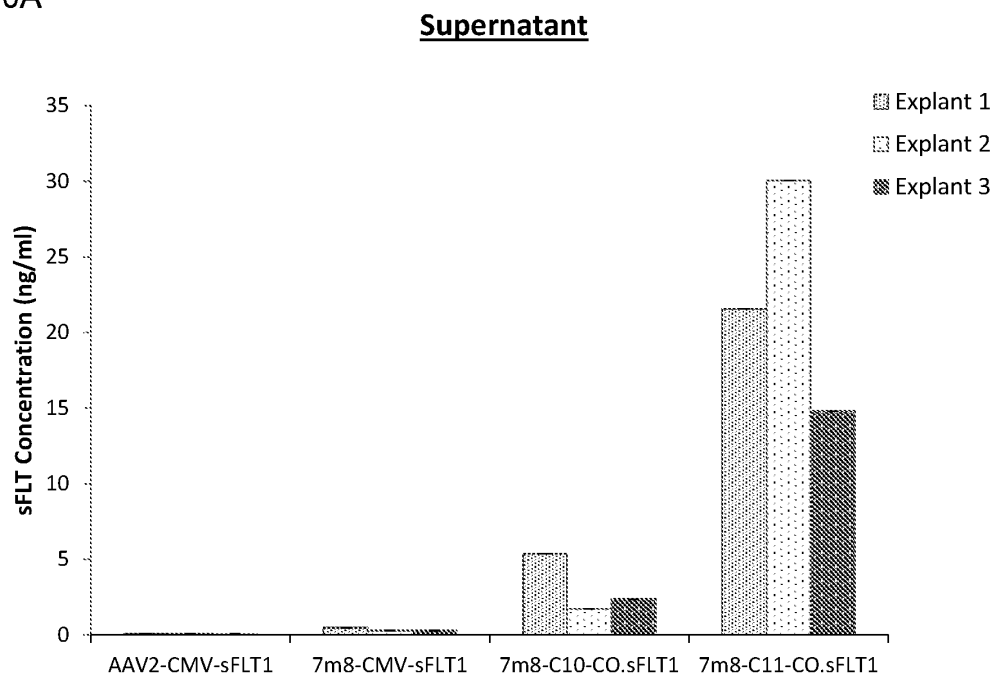
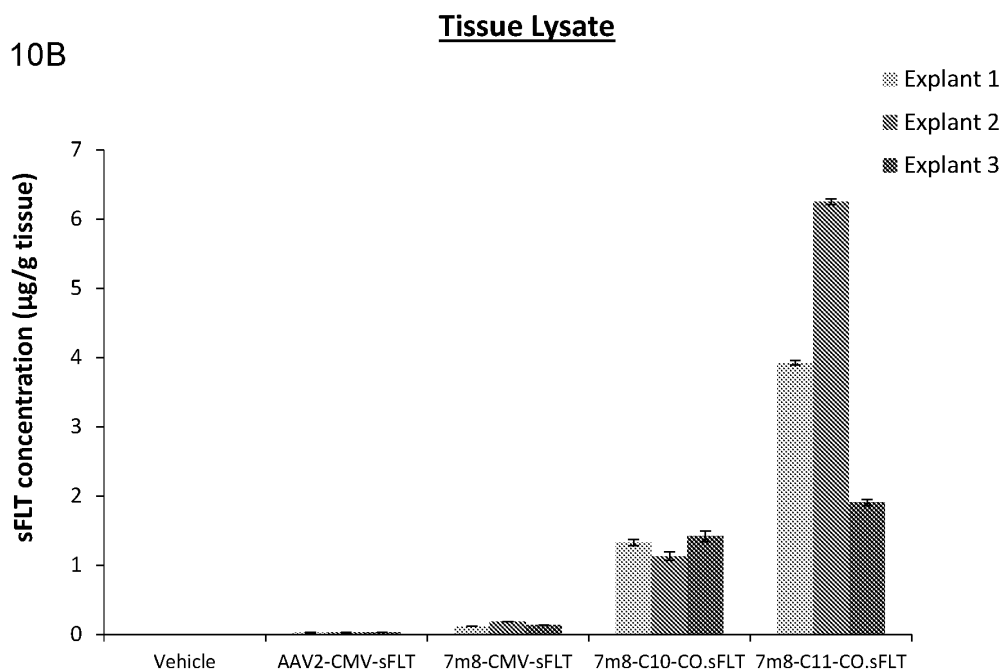


FIG. 10B



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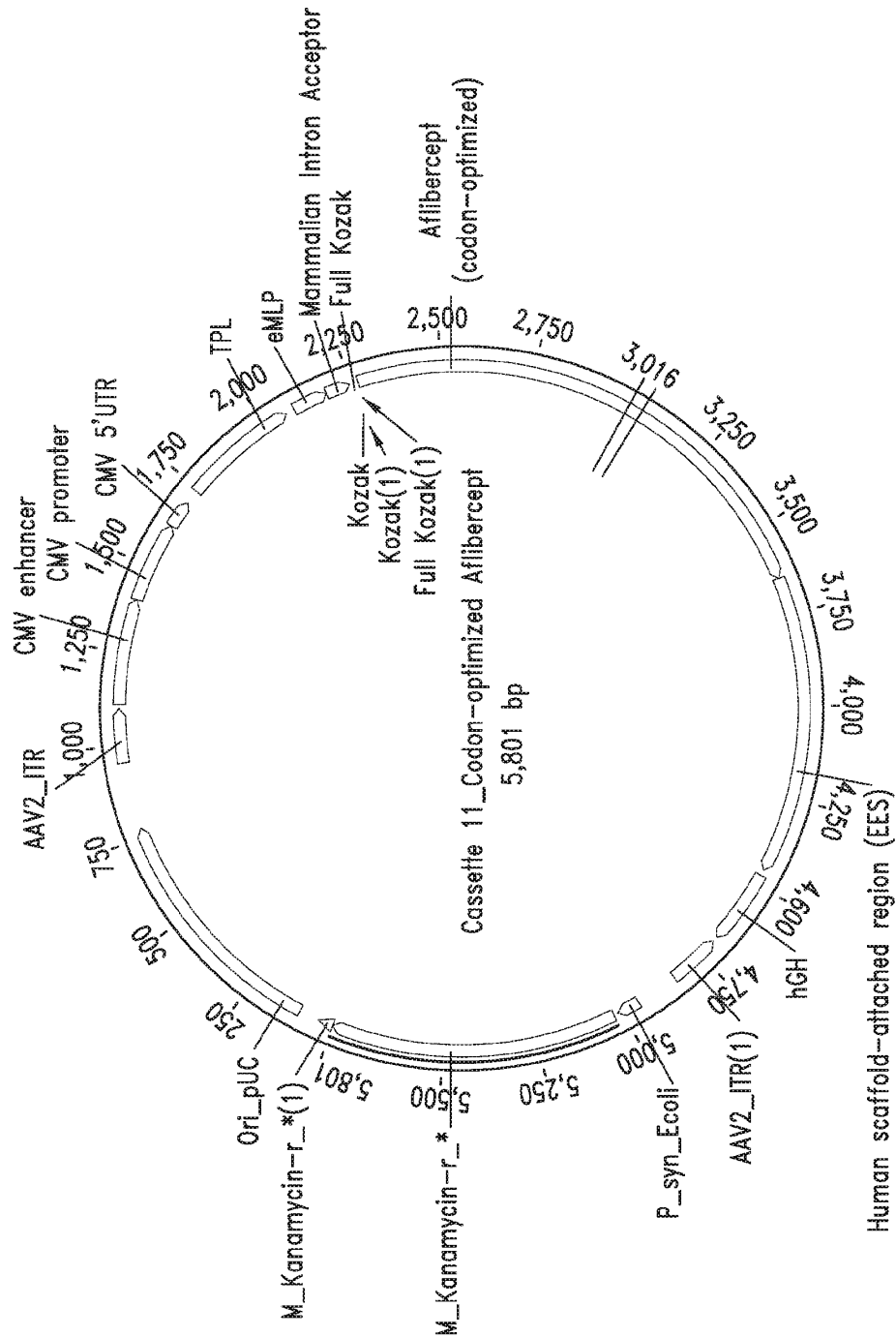


FIG. 11