ENHANCE YOUR PRODUCTION EFFICIENCY WITH OPTIMAL LENTIVIRAL PLASMID RATIO

By using optimal third generation lentiviral plasmid ratios and state-of-the-art manufacturing processes, we enhance both lentiviral vector production efficacy and titers.

Flash Therapeutics has developed a set of plasmids for the production of clinical lentiviral vectors. This third-generation lentiviral packaging system comprises of two packaging plasmids and an envelope plasmid, to be used in conjunction with a self-inactivating (SIN) tat-independent transfer plasmid, encoding the gene of interest.

Depending on the plasmid ratio used during production, we increase titer, infectivity and transduction efficiency of 3rd generation lentiviral vectors.

Multiple batches of 3rd generation, hard-to-produce Chimeric Antigen Receptor (CAR)-expressing lentiviral vectors were produced using different transfer and helper plasmid ratios. Crude batch specifications (figure 1) and transduction efficiencies (figure 2) vary substantially depending on the plasmid ratio used during production.

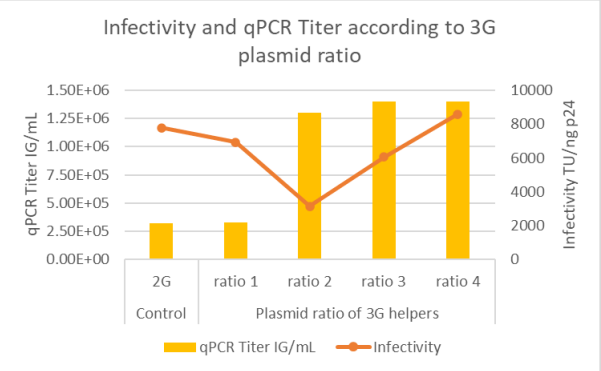

Figure 1

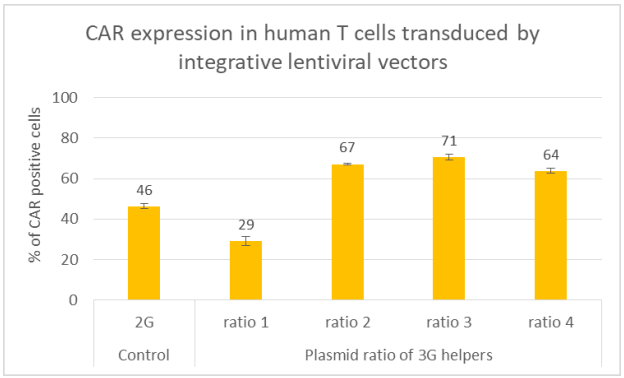

Figure 2

Titers and infectivities of crude 3rd generation lentiviral vector batches produced using different plasmid ratios, compared to a 2nd generation batch production. **Figure 1:** Infections titer (expressed in Integrated Genome/mL) is quantified by qPCR after transduction of HCT116 cells by serial dilutions of crude supernatant. p24 titer is quantified by ELISA assay. **Figure 2:** Human primary T cells are activated by CD3/CD28 beads prior to being transduced by the same volume of crude supernatant produced by the respective plasmid ratios. % of CAR positive cells is measured by flow cytometry after immunostaining of the CAR.

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