

Why customers prefer Flash Therapeutics lentiviral vectors ?

- ▶ **A Unique patented purification process:** Our high quality vectors allow for efficient genetransfer in primary cells, human stem cells and *in vivo* injection into animals, without toxicity nor unwanted effects on the phenotype of the target cells. Some competitors may purify their lentiviral vectors as well but they do not have a purification process allowing the removal of 97.9% of protein impurities. The protein impurities co-purified with lentiviral vectors are responsible for the toxicity observed on target cells. Thanks to Flash Therapeutics' patented process, all impurities are removed allowing for healthier target cells (Figure 1).
- ▶ **Highly concentrated lentiviral vectors for 100% of transduction efficiency on any celltypes:** The concentration of lentiviral vectors allows the transduction of any cells (immortalized, primary or stem cells) by increasing the MOI. Even the most difficult target cells can be transduced with Flash Therapeutics vectors, which combine high purification and super concentration. We are able to reach more than 80% transduction in most human or murine primary cells such as T Lymphocytes which are hard to transfect. Our competitors are usually not able to reach 10% transduction of T lymphocytes (Figure 2).
- ▶ **A robust and strong titration method by a professional QC team:** The lentiviral vectors titer in TU/ml we provide represents the true count of efficient particles that our customer can use for their experiments. Most of our competitors do not provide titers in TU/ml unit but the full count of particles, including the damaged or empty particles which bring nothing but toxicity to the target cells (Figure 3).
- ▶ **An attentive customer support team focused on the success of your project:** Flash Therapeutics is a real partner and brings expertise in project management, scientific design, project follow-up and quality of the results. The level of implication of Flash Therapeutics is our customer's choice, from simply delivering a vector production to partnering on the whole project. Flash Therapeutics' scientific team supports you during the whole duration of your project in order to provide the right vector for the right application. In all cases, Flash Therapeutics will help you define the best lentiviral vectors batch to transduce your target cells with 100% efficiency.

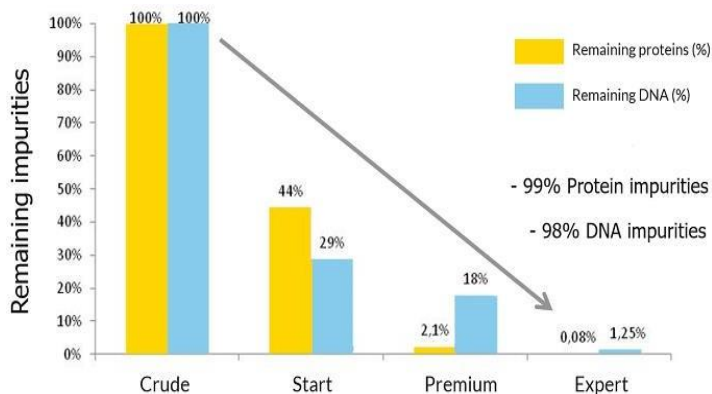


Figure 1: Flash Therapeutics large range of products allow for the transduction of any cell types with a purification level dedicated to specific cell types. Start grade for immortalized cell lines, Premium grade for primary and stem cells and Expert grade for in vivo injections.

Figure 2: Caco2 cells were transduced with Flash Therapeutics concentrated lentiviral vectors and lentiviral vectors from one of the competitors who do not concentrate their lentiviral vectors. Caco2 cells are hard to transduce cells therefore an increase in the MOI is necessary for their transduction. Using Flash Therapeutics concentrated lentiviral vectors allow an increase of the MOI up to 100 to obtain 100% efficiency. Using competitor non concentrated lentiviral vectors it was not possible to increase the MOI to a level allowing a good transduction efficiency.

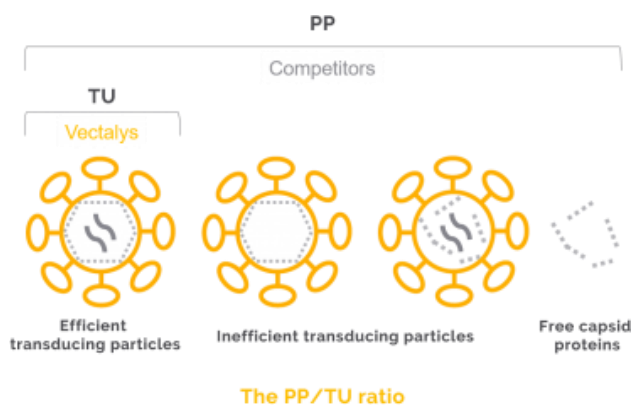
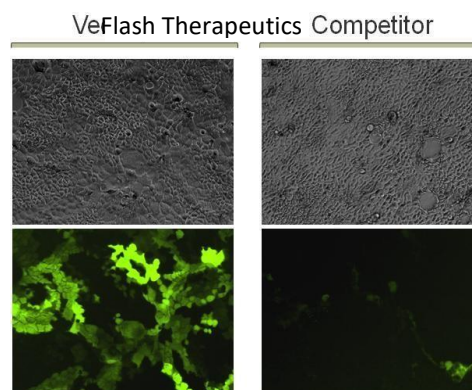


Figure 3: What is the difference between transduction units (TU) and physical particles (PP)? During the production of viral vectors, functional and nonfunctional particles are produced. A functional and complete particle is called a transduction unit (TU). Physical Particles (PP) represent functional particles and also empty particles, damaged particles and free p24 proteins. The PP/TU ratio is a quality control measure of the quality of the vector product. It is optimal to remove as much PP in the viral supernatant to keep only the functional particles. It is therefore necessary to have reliable and discriminating titration methods for the different types of particles