

## Concentrate Lentivirus... Effortlessly

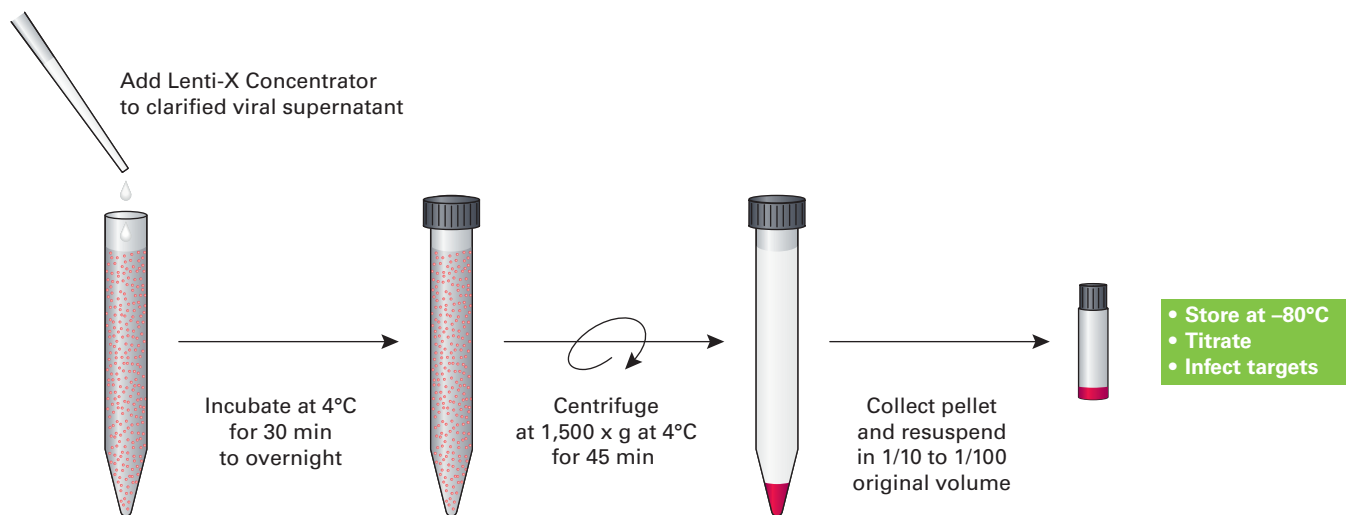
Increase your viral titer 100-fold with Lenti-X™ Concentrator—without ultracentrifugation

- **Simply mix and spin**
- **Hassle-free and easily scaled up for large volumes**
- **No ultracentrifugation required**

Need to concentrate your lentivirus preps, but don't want the hassle of ultracentrifugation? Use **Lenti-X Concentrator** to increase your available titer up to 100-fold and infect your target cells at higher MOIs and in reduced volumes, without making more virus.

### Simple protocol: Mix, wait, spin

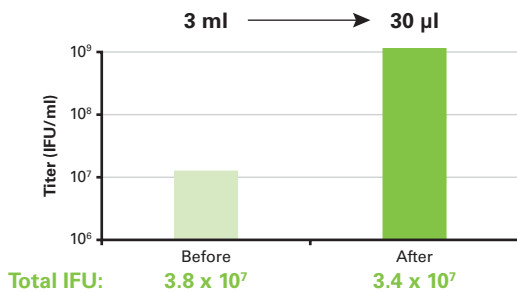
**Lenti-X Concentrator** provides a fast, simple, and highly efficient method for concentrating any lentiviral stock. In the simple protocol, you just mix your lentiviral supernatant with the Lenti-X Concentrator reagent, incubate for a short period, and spin the mixture in a standard centrifuge (see below). You'll increase your vector titer by up to 100-fold in ~1 hr, and obtain excellent recoveries—with no ultracentrifugation. Lenti-X Concentrator works for all lentiviral supernatants, including those made from any of Clontech's Lenti-X Systems, and the procedure can be scaled up or down to best suit your needs.



**The Lenti-X Concentrator protocol. Add Lenti-X Concentrator reagent to clarified viral supernatant, incubate for 30 min to overnight at 4°C, and spin. That's it.**

## Increase Titters by 100-fold

Using the Lenti-X Concentrator protocol, we were able to increase the titer of a lentiviral supernatant from  $10^7$  to  $10^9$  IFU/ml, and recover 90% of the virus in 1/100 of the original volume (Figure 1). You can achieve similar results starting with any volume of supernatant.



**Figure 1. Efficient concentration with minimal loss.** Lentiviral supernatant from a pLVX-ZsGreen1 vector was concentrated from 3 ml down to 30 µl using the Lenti-X Concentrator reagent, which reflected a 100-fold increase in viral titer. Measuring the total amount of virus contained in each sample indicated that the resuspended pellet captured 90% of the virus present in the original sample. Samples were titrated using HT1080 cells and analyzed by flow cytometry 48 hr post-transduction.

## Far Simpler Than Ultracentrifugation

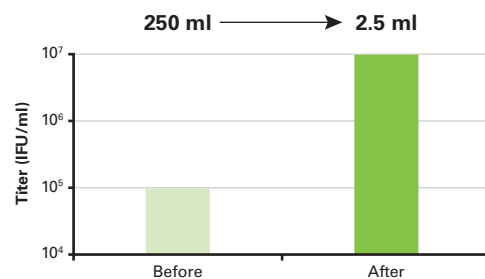
In a side-by-side comparison between Lenti-X Concentrator and ultracentrifugation, the advantages of Lenti-X are clearly evident (Table I). Lenti-X Concentrator is more flexible, faster, easier, and just as efficient as ultracentrifugation.

Table I: Lenti-X Concentrator vs. Ultracentrifugation		
Feature	Lenti-X Concentrator	Ultracentrifugation
Easily Scalable	Yes	No
Specialized Equipment	No	Yes
Time Required	~1 hr	4 hr to overnight
Ease-of-Use	++++	+
Yield	>90%	>90%

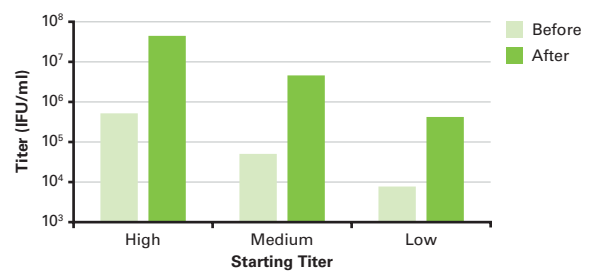
## Scalable for Supernatants of Any Volume, Any Titer

The Lenti-X Concentrator reagent is itself a 4X concentrate, so it can be added to any volume of supernatant containing any amount of virus or any starting titer. To illustrate, we diluted a sample of supernatant to 250 ml, then concentrated the virus and resuspended it in 2.5 ml, recovering >95% of the original virus (Figure 2). We also concentrated virus from serially diluted samples of lentiviral supernatant which were reduced to 1/100 of their original volumes using the Lenti-X Concentrator protocol (Figure 3). Regardless of the starting titer or volume, virtually all of the virus is recovered in the Lenti-X Concentrator pellets.

Whether you need to reduce the volume of your viral supernatant, or increase its titer, Lenti-X Concentrator produces the results you need—quickly and simply, without the time-consuming hassles of ultracentrifugation.



**Figure 2. Concentrate virus from large volumes.** Lentiviral supernatant was diluted into 250 ml and then concentrated down to 2.5 ml using Lenti-X Concentrator. Titrations were performed using HT1080 cells and flow cytometry 48 hr post-transduction.



**Figure 3. Concentrate virus from any starting titer.** Tenfold serial dilutions of a high-titer lentiviral supernatant (high, medium, and low) were concentrated from a volume of 10 ml down to 100 µl using the Lenti-X Concentrator Reagent. Titrations were performed using HT1080 cells and flow cytometry 48 hr post-transduction.

### Ordering Information

Product	Size	Cat. No.	
Lenti-X Concentrator	100 ml	631231	NEW!
	500 ml	631232	