

**Capabilities of the platform:**

“In Stock” viral preparations: The core will maintain stocks of 293T cells, packaging and envelope plasmids (for lentiviral vector production), and control lentiviral vector plasmids (such as irrelevant shRNA silencing specificity control, scrambled shRNA silencing specificity control, GAPDH-silencing positive control) and an EGFP-expressing lentiviral vector (for evaluation of transduction efficiency in the cell type of interest). It will provide these reporter or control viral preparations to users at cost-recovery prices.

Custom-made viral preparations using the lentiviral vector plasmid provided by users: Using the standard lentiviral constructs, the Core will produce high quality lentiviral viral preparations in unconcentrated format (titer estimated to be  $\sim 1 \times 10^6$  TU/ml; one volume size) and concentrated format (titer estimated to be  $\sim 1 \times 10^8$  TU/ml; in small, medium and large sizes). We can package also lentiviral vectors of other sources; however, as lentiviral vector designs will affect packaging efficiency, the titer will need to be determined.

Training and Workshops: Drs. Kung and Xie will supervise and provide training to the Technician in charge of the Core. The Core will hold regular workshops and training session to users at U. Manitoba.

Optional service:

Plasmid Isolation using Qiagen kits

Titer determination

**Significant impact of the platform:**

- To enhance research productivity by saving time that a researcher needs to prepare these viral preparations routinely.
- To facilitate the use of this vastly popular technique in basic and translational research. It will encourage new users who hesitate to set this up in the laboratory due to biosafety concerns, infrastructure requirements or high cost of purchasing small amount of virus to test from the commercial resources.
- To make full use of the unique resource of the lentiviral shRNA libraries we already have on campus. The two platforms will integrate and further enhance the competitiveness of the research projects/proposals of our researchers at the University.