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Author: Otto-Wilhelm Merten Bruno Gaillet

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## ACCEPTED MANUSCRIPT

### Viral vectors for gene therapy and gene modification approaches

Otto-Wilhelm Merten<sup>a,\*</sup> and Bruno Gaillet<sup>b</sup>

<sup>a</sup>Généthon, 1bis, rue de l'Internationale, BP60, F-91002 Evry Cedex 2, France.

<sup>b</sup>Université Laval, Département de Génie Chimique, Local 3570, Pavillon Adrien-Pouliot, 1065

ave. de la Médecine, Québec, QC, Canada, G1V 0A6.

\*Corresponding author:

Otto-Wilhelm Merten

Géthon, 1bis

Rue de l'Internationale, BP60

F-91002 Evry Cedex 2

France

E-mail: omerten@genethon.fr.

#### Highlights

- This review article provides an update on the viral vectors currently in use in various fields
- Viral vectors such as adenovirus (AV), adeno-associated virus (AAV), murine leukemia virus (MLV), and lentivirus (LV) are described.
- The use of retroviral particles such as virus-like particles (VLPs) is illustrated.
- Small- and large-scale manufacturing methods are presented.
- Safety issues in this respect are listed.
- The potential applications of these vectors for gene addition and protein transduction are described.

#### Abstract:

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