The use of viruses as carriers in gene therapy is to protect DNA from degradation and deliver it to the nucleus. An ideal vector would replace the viral genome with a therapeutic gene expression cassette. Recent successes have been achieved in several clinical trials, especially with the use of lymphatic viral vectors and AAVs. To overcome this challenge, researchers have developed strategies to prevent or suppress immune responses to a genetically modified gene product. The use of viral vectors in gene therapy has shown promising results in the treatment of genetic diseases such as hemophilia and spinal cord injuries. The most commonly used vectors in gene therapy are gland-related viruses (AAVs). Each vector has its advantages and disadvantages that must be taken into account to ensure efficient gene delivery and gene expression for a successful treatment. The risk of the carrier's immune response and GM gene product remains, but strategies have been developed to overcome this challenge. The risk of a carrier's immune response and GMG producer remains, but strategies have been developed to overcome this challenge. These strategies include the use of immunosuppressive agents and the design of low-immunity vectors. Using viral vectors