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## The roles of adenoviral vectors and donor DNA structures on genome editing

1. Contrary to direct and spaced inverted repeats, nonspaced inverted repeats are intrinsically recombinogenic motifs in mammalian cells lending experimental support to their role in genome dynamics in higher eukaryotes. *This thesis*
2. Adenoviral, but not lentiviral, vectors constitute a valuable TALEN gene delivery platform. *This thesis*
3. Hitherto, the pursuit and optimization of high-fidelity donor DNA templates did not get the same emphasis as that devoted to improving the specificity of designer nuclease platforms. *This thesis*
4. Viral vectors constitute attractive gene delivery vehicles owing to their efficient transduction of a wide range of cell types. *This thesis*
5. Gene therapy cured patients with inherited immune deficiencies. *M. Cavazzana-Calvo et al. 2000. Science 288, p. 699-672; Aiuti et al. 2002. Science 296, p. 2410-2413*
6. The combination of high nuclease activity with reduced cytotoxicity and the simple design process marks TALENs as a key technology platform for targeted modifications of complex genomes. *C. Mussolino et al. 2011. Nucleic Acids Res. 39, p. 9283-9293*
7. The observed relative survival advantage of the gene-modified cells during treatment interruption suggests that genome editing at the CCR5 locus confers a selective advantage to CD4 T cells in patients infected with HIV. *Tebas P et al. 2014. N. Engl. J. Med. 370, p. 901-910*
8. In principle, gene therapy is simple: putting corrective genetic material into cells alleviates the symptoms of disease. In practice, considerable obstacles have emerged. *Verma and Somia. 1997. Nature. 389, p. 239-242*
9. Don't ever let someone tell you, you can't do something. *Will Smith, The Pursuit of Happiness, 2006*
10. Men at some time are masters of their fates: The fault, dear Brutus, is not in our stars, But in ourselves. *Shakespeare, Julius Caesar Act 1, scene 2, 135-141*
11. The difference between the impossible and the possible is merely a measure of man's determination. *Captain James Thain, pilot of the plane in the 1958 Munich air disaster*
12. Biology is the study of complicated things that have the appearance of having been designed with a purpose. *Richard Dawkins, The Blind Watchmaker, 1986*