Epigenetic editing

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Propositions

1) Gene expression reprogramming can be achieved by targeted epigenetic editing of regulatory regions. (**This Thesis**)

2) Epigenetic editing is a powerful research tool to study the molecular mechanisms of epigenetic processes and also a possible biomedical tool towards a cure for the incurable. (**This Thesis**)

3) Epigenetic editing applications can range from targeted reprogramming of cells via induced pluripotent stem cells, to specialized cell types for clinical applications, or induction of genes involved in diseases with allelic imbalanced expression, and anticancer therapy. (**Chapter 2**)

4) The use of different DNA binding domains will allow for synergistic efforts to unravel the mechanisms for sustained gene expression reprogramming. (**This thesis**)

5) Despite the advancement in effector domain choices, further research is necessary to better understand the effect of chromatin microenvironment in the binding of several targeting platforms in order to realize highly reliable epigenetic editing. (**Chapter 4**)

6) Understanding the dynamics of the chromatin microenvironment is important to unravel the mechanisms underlying stable gene reprogramming, thus different outcomes for gene expression modulation are dependent on the local chromatin landscape. (**Chapter 8**)

7) "Protein synthesis is a central problem for the whole of biology, and that it is in all probability closely related to gene action" *Francis Crick.*

8) "Sometimes the greatest scientific breakthroughs happen because someone ignores the prevailing pessimism" *Nessa Carey*

9) "Your genetics load the gun, your lifestyle pulls the trigger" *Mehmet Oz*

10) Life is completely unpredictable, and so is the Dutch weather