PROPOSITIONS

belonging to the thesis

An shRNA Screen for the Discovery of Suppressors of Fetal Hemoglobin

1. Several distinct protein complexes are involved in the developmental regulation of the human fetal globin genes (This thesis).

2. *Ex vivo* expansion of human erythroid progenitors causes elevated HbF levels as a result of stress erythropoiesis (This thesis).

3. The CEBPG transcription factor, a potential repressor of fetal globin expression, interacts with the HBO1 complex (This thesis).

4. HUDEP-2 cells partly recapitulate human adult erythropoiesis (This thesis).

5. Hydroxyurea increases γ-globin expression through activation of stress response in primary human erythroid progenitor cells, this does not occur in HUDEP-2 cells (This thesis).

6. GWA studies indicate that common single nucleotide polymorphisms in the *BCL11A*, *HSB1L-MYB*, and *HBB* loci account for approximately 50% of the variation in HbF levels, suggesting that additional factors are involved. Thein SL, Hum Mol Genet. 2009; 18(R2): R216–R223.

7. Elevated levels of fetal globin in adult patients with β-thalassemia can lead to considerable amelioration of disease severity. Rochette J, Blood Rev. 1994;8(4):213-24.

8. "It is the mark of an educated mind to be able to entertain a thought without accepting it." Aristotle, philosopher and scientist, 384 – 322 BC .

9. "As to diseases, make a habit of two things; to help, or at least, to do no harm." (Hippocrates, physician, 460 – 370 BC).

10. "No man ever steps in the same river twice, for it is not the same river and he is not the same man." (Heraclitus, philosopher, 535 – 475 BC).

11. "May your choices reflect your hopes, not your fears." (Nelson Mandela, politician 1918-2013).