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MicroRNAs in pediatric acute lymphoblastic leukemia: functions and targets

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Stellingen behorend bij het proefschrift:

MicroRNAs in pediatric Acute Lymphoblastic Leukemia: Functions and Targets

1. MicroRNAs are team-players: miR-125b induces vincristine resistance in *ETV6-RUNX1*-positive leukemic cells, only in collaboration with miR-100 and miR-99a (this thesis).
2. In addition to global functions, miRNAs are responsible for tissue-specific tasks. MiR-24, a known regulator of cellular viability and regulator of Aurora Kinase B (*AURKB*) in hepatocarcinoma HEP-G2 cells, does not alter cellular viability or expression levels of *AURKB* in *TCF3*-rearranged leukemic cells (this thesis).
3. The biogenesis of miRNAs is tissue-dependent; it is essential to explore normal and malignant hematopoietic tissues to discover miRNAs relevant to human leukemias (this thesis).
4. The remaining mysteries on miRNA-target genes interactions resulted in inaccurate computational miRNAs target prediction. The experimental approaches are also easily misinterpreted. However, combining sensitive/specific prediction algorithms with recent state of the art developments in proteomics technologies might be the way toward successful miRNAs target discovery (this thesis).
5. Despite the partial overlap in miRNAs signature of *BCR-ABL1*-positive and *BCR-ABL1*-like ALL, miRNAs are unlikely to explain the similarities and dissimilarities in pathobiology of these two subtypes of ALL (this thesis).
6. “One suspects that the diversity and abundance of miRNA genes reflects a broad spectrum of functions and mechanisms, requiring that we approach the study of them with a mindset open to surprise and delight.” (Victor Ambros, Cell 2001)
7. “Think you know how miRNAs work? Think again!” (Joel D. Richter, Nat Struct Mol Biol, 2008)
8. “Those who learned to collaborate and improvise most effectively, have prevailed.” (Charles Darwin, 1809-1882)
9. “Great minds discuss ideas, average minds discuss events, small minds discuss people.” (Eleanor Roosevelt, 1884-1962)
10. “The more I discovered, the more I realized how little I know!” (Avicenna, Persian polymath, physician and philosopher, 980-1037)
11. The first woman created me: **my mother**. The second woman discovered me: **my wife**. The third woman showed me the beauty of colors and lines: **my daughter**... I came from a woman; I learned from a woman; I am alive for a woman... I spent my whole life in the shelter of these women... I am a man! (Sohrab Rahimi, Persian-Swedish poet)

Farhad Akbari Moqadam
Rotterdam, 8 January 2014