## Stellingen Behorende bij het proefscrijft:

Propositions associated with the thesis:

## Signal transduction pathways in chronic lymphocytic leukemia

- 1. Both B-cell intrinsic factors, such as BCR signaling and enhanced BTK activity, as well as extrinsic factors, such as T cell help, play critical roles in survival, proliferation and shaping the B cell repertoire of CLL. (this thesis)
- 2. Unmutated CLL can be classified into two distinct subsets: one is T cell-independent, while the other arises upon antigen stimulation in the context of T-cell help. (*this thesis*)
- 3. In addition to kinases downstream of the BCR, phosphatases such as SHIP1 and SHIP2 can have an oncogenic role in CLL.(this thesis)
- 4. Independent activation of the ERK and PI3K/BTK signaling pathways indicates redundancy in survival signaling in CLL and should be considered when choosing kinase inhibitors in CLL therapy. (this thesis)
- 5. ERK activation is not only a marker of anergy in CLL, but may also act as an inducer of apoptosis. (this thesis)
- 6. Moving from the era of chemotherapy toward an era of patient-friendly novel agents represents a dramatic improvement in the life of our CLL patients, and brings us a step closer to cure of this disease. (Woyach J.A. et. al., Blood 2015)
- 7. Tumor evolution following therapy is the rule rather than the exception. (*Landau D.A. et al., Nature Communications 2017*)
- 8. Progress in medicine must always remain in our rear view mirror, leaving behind what has been accomplished and forever searching for the next advances of the future. (*Yazdy M.S. et. al., Blood 2018*)
- 9. Education is for improving the lives of others and for leaving your community and world better than you found it. (*Marian Wright Edelman*)
- 10. Natural development is achieved step by step. It is guided by the pace of evolution itself.(*Dharam Singh Nihang*)
- 11. Life is not merely being alive, but being well. (Marcus Valerius Martialis)