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Glycosylation profiling with mass spectrometry: method development and application to cancer biomarker studies

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Stellingen behorende bij het proefschrift

GLYCOSYLATION PROFILING WITH MASS SPECTROMETRY

Geertruida Cornelia Maria Vreeker

1. Glycosylation profiling with MALDI-MS is a powerful method to obtain a global overview of changes in disease, but for biomarker development a more in-depth technique is probably required. (*this thesis*)
2. Glycans derived from biological material should not be evaluated individually, but always as a part of the total complex. (*this thesis*)
3. Finding a difference in serum protein glycosylation between cases and controls does not necessarily mean that this can be called a clinical biomarker, as many glycosylation changes are observed in other cancers or inflammatory diseases, making it highly unspecific. (*this thesis*)
4. The heterogeneity of breast cancer forms a challenge in finding a unifying marker for this disease. (*this thesis*)
5. To improve the understanding of cancer glycosylation, attention should not only be paid to the classification of case and control samples, but also to biological pathways connecting the glycan signatures with the tumor.
6. Collaboration between researchers from different life-science disciplines is essential and should be stimulated; the human body is one complex and the research on it should therefore be as one too.
7. Human diversity is a positive thing for evolutionary purposes, but can cause serious difficulties when it comes to biomarker discovery and disease treatment.
8. Science can never be considered objective, as the bias and prejudice of a paradigm are always present.
9. The prospect of something being hard is not a good reason not to try.
10. The ability of a child to be amazed by the smallest things in life should be cherished for as long as possible, as education in later life can disfigure this perfect happiness resulting from unknowingness.
11. Albert Einstein wrote (Tokyo, 1922): "A calm and modest life brings more happiness than the pursuit of success combined with constant restlessness." The trend and pressure of having to strive for more success and prestige all your life is one of the most toxic beliefs in current society.
12. The most important thing in life is not happiness, it is hope. Without hope humanity is lost.
13. De aanspreekvormen tijdens de verdediging zouden in beide richtingen toegepast moeten worden: zoals een kandidaat de commissie als "hooggeleerde/zeergeleerde opposenten" aanspreekt, zou de kandidaat met een Master diploma ook als "weledeleerde kandidaat" aangesproken moeten worden.