Tackling the complexity of CKD-associated cardiovascular disease

Tackling the Complexity of CKD-associated Cardiovascular Disease

From Small Molecules to Proteins

Propositions

1. To date, no universal clinical method exists for effective removal of protein-bound uremic toxins in patients with kidney disease. |*Chapter 2, this thesis*

2. Significant number of protein-bound uremic toxins are under-investigated and might hold a clue to better understanding of the mechanisms of cardiorenal syndrome. | *Chapter 2, this thesis*

3. Atherosclerotic plaque carbamylated protein content increases with its progression in patients with kidney insufficiency. | *Chapter 3, this thesis*

4. Protein modification research remains challenging with no user-friendly, affordable, yet specific and sensitive analysis techniques. | *Chapter 3, this thesis*

5. We lack sufficient understanding of shedding regulation and exact effects of the soluble form of Klotho protein, a promising therapeutic target. | *Chapter 4, this thesis*

6. Novel computational methodologies offer a transformative solution allowing researchers to uncover hidden relationships between genes and their functions and providing deeper insights into the molecular mechanisms underlying disease. | *Chapter 5, this thesis*

7. Macrophage CDK5 emerges as a calcification-linked inflammatory mediator making it an interesting candidate for inhibition of plaque progression to a more vulnerable state. | *Chapter 5, this thesis*

8. Despite existing consensus on collaboration being crucial for successful research, excessive hubris within the scientific community often hinders its realization.

9. There are very few beliefs as destructive as “This is how it always has been.”

10. One cannot fully understand the sea by merely observing the waves, it is necessary to get off the shore and feel them on your own skin.