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The relevance of preanalytical factors in metabolomics and lipidomics research

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Propositions accompanying this dissertation

The Relevance of Pre-Analytical Factors in Metabolomics and Lipidomics Research

by Jorge Andres Gil Quintero

1. Over the last decades omics technologies have helped us to fundamentally change how biomedical research is carried out. (This thesis)

2. There is a lack of knowledge on how the metabolome and lipidome are affected by the physicochemical conditions to which samples are exposed during the pre-analytical stage. (This thesis)

3. The degradation of nucleotide triphosphates extracted under boiling ethanol conditions is prevented by the yeast cellular matrix. The basis of the stabilizing effect remains unclear and interconversion of metabolites still represents a pitfall in quantitative metabolomics. (This thesis)

4. The experimental simplicity of the MeOH/MTBE/CHCl3 (MMC) one-phase extraction approach and its broad coverage of the lipidome makes it the preferred method for untargeted lipid analysis. (This thesis)

5. Besides the clinical usefulness of the GSH/GSSG ratio as an index of oxidative stress, 5-oxoproline is an easily measurable potential biomarker related to cardiovascular disease that merits further validation. (This thesis)

6. "It is the long history of humankind (and animal kind, too) that those who learned to collaborate and improvise most effectively have prevailed" – Charles Darwin.

7. "Character cannot be developed in ease and quiet. Only through experience of trial and suffering can the soul be strengthened, ambition inspired, and success achieved" –Hellen Keller.

8. You will never understand other nations if you don't live in their countries and get acquainted with their traditions.

9. "I'm not afraid of stereotypes. There are some truths to it - but the problem is that people keep sort of owning that one thing to be the truth" – Mara Brock Akil.

10. "That's all Folks" – Looney Tunes.