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Proteomic studies in schizophrenia and effects of antipsychotic medication: relevance for the immune system

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Schizophrenia is an incurable disorder, demanding continuous healthcare which generates substantial expenses. Moreover, as a multivariate disorder presenting a wide range of symptoms, schizophrenia treatment success varies significantly among patients including no response and undesirable side effects. Despite all scientific efforts so far, the effects of medication on the molecular level still needs to be better comprehended. In addition, it is necessary to identify biomarkers which may indicate the likelihood of a successful treatment and implement them in the clinic. These needs can be tackled by proteomics.

For filling up this gap, this project intended to assess plasma proteomes collected from living patients prior their treatment initiation and after 6 weeks employing the state-of-the-art proteomic technology. A cohort of 56 drug-free patients submitted to different atypical antipsychotic drugs such as olanzapine, quetiapine, and risperidone were analyzed focused in evaluating the biological and molecular effects of antipsychotic treatment as well as discovering of biomarkers with predictive power to successful medication response.

This project goes towards the development of a personalized medicine strategy to schizophrenia by understanding the molecular bases of antipsychotic medication and by identifying predictive biomarkers for clinical implementation.

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