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Lipidomics approaches for discovering biomarkers, therapeutic targets and improved therapies for the treatment of schizophrenia

This invention has utilized the power of lipidomics to profile lipid metabolites and to characterize changes in lipid metabolism as they relate to CNS disorders. Lipidomic signatures can guide the development of diagnostic, prognostic and surrogate markers for CNS disorders; identification of new targets for drug design based on highlighted perturbed pathways; stratify patients with CNS disorders as to which pathways are impaired, and facilitate the determination of which patients with CNS disorders are candidates for a particular therapy, i.e. provide the tools for a personalized approach to therapy; identify which patients are responding or are developing side effects to a treatment; design of modified antipsychotics that have less metabolic side effects and enhanced activity; overcome the lag phase in response to some treatments; and find better combination therapies for CNS disorders that target the pathways that are impaired (e.g., impairments in lipid and/or carbohydrate metabolism).