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Sex Differences in Behavioral and Metabolic Effects of Gene Manipulation and Mutation

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Message from the Guest Editors

Gender and biological sex impact the pathogenesis and vulnerability to numerous diseases, including metabolic, neuroendocrine, and neuropsychiatric disorders.

Experimental and clinical evidence has demonstrated that the sex-linked hormonal and environmental background strongly affects functional consequences of gene manipulation and mutation, an aspect that is not often carefully evaluated.

Genetically modified animal models are essential tools to identify the central and peripheral circuits underlying sex differences in metabolism, feeding, and emotional behavior and vulnerability to metabolic disorders and their comorbidities. The phenotype induced in one sex by a genetic manipulation or mutation may be absent, or even be reversed, in the other sex.

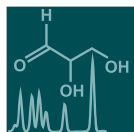
This special issue will focus on the new advances in our knowledge on how genetic manipulation in animals as well as human gene mutations can unravel several aspects of metabolic and behavioral functions which are regulated differently in males and females.

The topics that will be covered by this Special Issue comprise but are not limited to sex-related differences of gene alteration (manipulation or mutation) on different metabolic and behavioral functions, including: Tissue metabolism; Peripheral metabolic signals; Energy balance; Hormone environment; Steroid-mediated functions; Feeding behavior; Emotional behavior; Developmental factors; Gene environment interaction; Eating disorders; Metabolic disorders; Obesity.



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Special Issue



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Message from the Editor-in-Chief

The metabolome is the result of the combined effects of genetic and environmental influences on metabolic processes. Metabolomic studies can provide a global view of metabolism and thereby improve our understanding of the underlying biology. Advances in metabolomic technologies have shown utility for elucidating mechanisms which underlie fundamental biological processes including disease pathology. *Metabolites* is proud to be part of the development of metabolomics and we look forward to working with many of you to publish high quality metabolomic studies.

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