

Special Issue for  
**Endocrine, Metabolic & Immune Disorders-Drug Targets**  
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## **Current Genetic and Epigenetic Insights into Type 2 Diabetes Mellitus**

### **Aims & Scope:**

Type 2 diabetes mellitus (T2DM) is a major health burden affecting 415 million adults worldwide. The prevalence is continuously increasing at a rapid pace. It is a complex metabolic disorder where both genetic and environmental factors contribute in the pathogenesis. To expand the understanding of the pathogenic mechanisms and improving the treatment strategies, identification of genetic variations predisposing to T2DM is important. Candidate gene approaches, genome-wide association studies (GWAS) and sequencing techniques have been used in the identification of common, low-frequency and rare variants of T2DM. GWAS have identified more than 100 common variants of T2DM. Almost all of these variants regulate insulin secretion, and only a few regulate insulin sensitivity. However, all the genetic loci identified so far account for only about 10% of the overall heritability of T2DM. In addition, how the novel susceptible loci are correlated with the pathophysiology of the disease remains largely unknown. Gene-environment and gene-gene interactions are likely to contribute to the missing heritability of T2DM. Besides genetics, epigenetics is believed to play role in the pathogenesis and development of T2DM. Dysregulation of the epigenome, especially, epigenetic modification of DNA methylation, histone modification, and RNA-associated gene silencing are found to be associated with T2DM. In recent years, progress has been made in revealing T2DM-associated genes undergoing epigenetic alterations. Evidences suggest that environmental factors can easily influence these epigenetic markers and increase the risk of T2DM via affecting gene expressions. Additionally, it is suspected that variable drug response in patients with T2DM is due to different levels of T2DM-associated gene expressions. Thus, exploration in the pharmacogenetic and epigenetic aspects of T2DM is needed towards personalized treatment.

Therefore, we would like to invite potential investigators to submit review articles, systematic reviews and meta-analysis focusing on the advancements made in the field of genetics and epigenetics associated with T2DM. The articles describing advances in pathogenic mechanisms, identification of novel genetic variants predisposing T2DM, impact of environmental factors in gene regulation, pharmacogenetic and epigenetic contributions in T2DM management are mostly preferred.

**Potential topics include, but are not limited to:**

- Identification of new genetic risk variants contribute to T2DM pathogenesis.
- Molecular mechanisms linking environmental factors and genetic predisposition to T2DM.
- Interaction of environmental factors and epigenetic modifications of T2DM gene expressions.
- Latest technologies aiding the identification of novel genetic/epigenetic markers involved in the T2DM pathogenesis.
- Developments in pharmacogenetic and pharmacoepigenetic research for the treatment of T2DM.

**Schedule:**

Manuscript submission deadline: June 2018

Peer Review Due: July 2018

Revision Due: August 2018

Notification of acceptance by the Lead Guest Editor: September 2018

Final manuscripts publication: July, 2019

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