



*Special Issue Reprint*

## **Physiology and Pathophysiology of Placenta**

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Dear colleagues,

The development and differentiation of placental villous trees are two key processes tightly regulated during pregnancy. In fact, several growth factors, their receptors and other types of molecules can regulate placental cell proliferation, differentiation, migration and invasion. Thus, an impairment of normal placental development can lead to a series of pregnancy pathologies, i.e., preeclampsia (PE), fetal growth restriction (FGR), gestational trophoblastic diseases (GTD) and gestational diabetes mellitus (GDM). Furthermore, external factors, such as microbial agents, chemicals and natural compounds, can affect placental development and function, impairing pregnancy outcomes. These pregnancy complications result in increased maternal and fetal mortality and morbidity, leading to life-long health implications in both mother and child.

The aim of this Special Issue is to provide an overview of placental development and pathophysiology in order to better understand the molecular mechanisms involved in pregnancy.



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