



The Impact of Altered Metabolism on Cardiac Development and Disease

Guest Editor:

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Message from the Guest Editor

The heart is the first organ formed during embryogenesis and continues its rhythmic contractions throughout the entirety of life. While the heart utilizes glycolysis to produce ATP in a relatively hypoxic amniotic environment, it becomes reliant on mitochondrial respiration as oxygen levels rise at birth. The heart initially uses lactate and glucose to fuel oxidative phosphorylation but later depends on the β -oxidation of fatty acids for the vast amount of ATP required for adult circulation. Cardiac metabolism is thus dynamic and must be tightly coupled to the heart's structural and functional maturation. Genetic and environmental insults that alter metabolism can thus impact both cardiac development and the heart's responses to ischemia, pressure overload and other injuries. This Special Issue of the International Journal of Molecular Sciences will focus on how altered cardiac metabolism affects the growth, differentiation, maturation and function of the cardiomyocytes, endocardial cells, fibroblasts, and other cell types within the heart.





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Message from the Editor-in-Chief

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