

Role of CRTC2 in metabolic derangement

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cAMP signaling is critical in the regulation of metabolic homeostasis in mammals. In particular, transcriptional regulation by cAMP response element-binding protein (CREB) and its co-activator, CREB-regulated transcription coactivator (CRTC), is essential for controlling expression of critical enzymes in the metabolic process, leading to the chronic changes in metabolic flux. Among the CRTC isoforms, CRTC2 is predominantly expressed in peripheral tissues and has been shown to be associated with various metabolic pathways in tissue-specific manners. While initial reports showed the physiological role of CRTC2 in regulating gluconeogenesis in the liver, recent studies have further delineated the role of this transcriptional coactivator in the regulation of glucose and lipid metabolism in various tissues, including the liver, pancreatic islets, endocrine tissues of the small intestines, and adipose tissues. In this talk, I would like to discuss recent studies that have utilized knockout mouse models to delineate the role of CRTC2 in the regulation of metabolic homeostasis in the liver and adipose tissues.