

UNANTICIPATED ROLE OF HIF1A IN TUMOR CELL GLUCOSE METABOLISM

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A key biological action executed by hypoxia-inducible factor-1 α (HIF1 α) is the reprogramming of cell oxidative metabolism. In this line, HIF1 α attenuates tricarboxylic acid cycle and mitochondrial activities to reduce oxygen consumption when its supply is limited. Simultaneously, HIF1 α can promote glycolysis to facilitate energy production in an oxygen-independent manner. However, metabolomic studies in human clear cell renal cell carcinomas (ccRCC) - characterized by constitutive HIF1 α activation - have shown that lower glycolysis is paradoxically attenuated in these tumors. We will present data about the role of HIF1 α in this unanticipated metabolic pattern, the molecular basis underlying as well as its biological consequences.