

Targeting energy metabolism to eliminate cancer cells

ABSTRACT

Adaptive metabolic responses toward a low oxygen environment are essential to maintain rapid proliferation and are relevant for tumorigenesis. Reprogramming of core metabolism in tumors confers a selective growth advantage such as the ability to evade apoptosis and/or enhance cell proliferation and promotes tumor growth and progression. One of the mechanisms that contributes to tumor growth is the impairment of cancer cell metabolism. In this review, we outline the small-molecule inhibitors identified over the past decade in targeting cancer cell metabolism and the usage of some of these molecules in clinical trials.

Keyword: Cancer metabolism; Hypoxia; Glycolysis; Oxidative phosphorylation