

Therapeutically unexploited and potentially clinically beneficial approach to glioblastoma treatment is targeting brain tumor metabolism using sugar-based antimetabolites. 2-Deoxy-D-glucose (2-DG), the most known inhibitor of glycolysis, a very good in vitro candidate, lacks drug-like properties. We hypothesize that 2-DG selectivity, potency, and pharmacokinetics and subsequently ability to target safely and effectively brain cancers can be improved by the design of new 2-DG analogs and respective prodrugs. In addition, different drug combinations should be explored and we hypothesize that inhibitors of glycolysis will be highly effective in combination with blockers of angiogenesis that induce metabolic shift of GBM tumors.