

MicroRNAs are small, highly conserved non-coding regulatory RNA molecules. They have been shown to control many fundamental biological processes such as development, differentiation, proliferation, apoptosis and post-transcriptional gene regulation in cells. Compelling evidences have demonstrated that miRNA expression is deregulated in Glioblastoma (GBM) through various mechanisms. miRNAs may function as either oncogenic or tumour suppressor. The oncogenic role of miR-21-5p promoting various hallmarks of GBM has been well studied. Apart from this, our lab has identified miR-210-3p as a hypoxia-regulated miRNA in GBM that also has pro-tumor properties. Thus, various methods for miRNA modulation have been explored. miRNA sponge based approach to inhibit miRNAs had initially shown promise, and has been extensively studied in our lab. The results of the sponge based therapy technique showed an inhibition rate of 25-30% in oncogenic miRNA levels. Here, we aim to develop novel and more effective therapy techniques to effectively target oncomiRs miR-21-5p and miR-210-3p in GBM.

- ## References