# DNA methylation inhibitor

DNA demethylating agents are approved for some blood malignancies and are under active investigation in solid tumors, but how these drugs work has remained unclear [1].

Hua et al., llustrated that the expression of Dok7 was downregulation in human glioma tissues.Dok7 overexpression significantly inhibits proliferation and colony formation in vitro, and the xenograft tumor formation in vivo. In addition, 5-Azacitidine-2'-deoxycytidine (5-Aza), a DNA methylation inhibitor, preventing the loss of Dok7 expression by decreasing aberrant hypermethylation of Dok7 promoter in glioma cells. More importantly, DNMT1 knockdown induced the demethylation of Dok7 promoter, and enhanced the expression of Dok7 in gliomas. These results suggest that epigenetic silencing of Dok7 may provide a novel glioma treatment strategy [2].

1)
Licht JD. DNA Methylation Inhibitors in Cancer Therapy: The Immunity Dimension. Cell. 2015 Aug 27;162(5):938-9. doi: 10.1016/j.cell.2015.08.005. PubMed PMID: 26317460.
2)
Hua CD, Bian EB, Chen EF, Yang ZH, Tang F, Wang HL, Zhao B. Repression of Dok7 expression mediated by DNMT1 promotes glioma cells proliferation. Biomed Pharmacother. 2018 Jul 4;106:678-685. doi: 10.1016/j.biopha.2018.06.156. [Epub ahead of print] PubMed PMID: 29990858.