Greater matrix stiffness could obviously up-regulate the expression of BCL9L, thereby promoting the activation of Wnt/beta-catenin signaling and ultimately increasing the stemness of glioma cells. Inhibiting Wnt/beta-catenin signaling using gigantol consistently improved the anticancer effects of chemotherapy and radiotherapy in mice with subcutaneous glioma tumors. These findings demonstrate that a stiffer matrix increases the stemness of glioma cells by activating BCL9L/Wnt/beta-catenin signaling. Moreover, they provided a potential strategy for clinical glioma treatment by demonstrating that gigantol can improve the effectiveness of traditional chemotherapy/radiotherapy by suppressing Wnt/beta-catenin signaling [1].

1)
Tao B, Song Y, Wu Y, Yang X, Peng T, Peng L, Xia K, Xia X, Chen L, Zhong C. Matrix stiffness promotes glioma cell stemness by activating BCL9L/Wnt/beta-catenin signaling. Aging (Albany NY). 2021 Feb 1;12. doi: 10.18632/aging.202449. Epub ahead of print. PMID: 33535177.