SOX9 gene encodes a transcription factor essential for a central role in the development and differentiation of multiple cell lineages, such as in neurogenesis, neural crest development, etc. Recent study reported that overexpression of SOX9 mRNA is closely associated with poor clinical outcome of patients with malignant gliomas. In the study of Liu et al., they explored the regulatory role of SOX9 in glioma metastasis. To investigate the role of SOX9 in glioma metastasis, SOX9 overexpressed in human glioma cell line U251 on cell migration and invasion was evaluated via wound scratch, Transwell assay without or with Matrigel. SOX9-induced changes in EMT process were evaluated by Western blot. Furthermore, the role of β-catenin in the regulatory effect of SOX9 on cell migration and invasion, and EMT process was explored by suppressing β-catenin expression in SOX9-overexpressed U251 cells. SOX9 overexpression in U251 cells resulted in a significant increase in cell migration and invasion. SOX9 overexpression also markedly promoted the EMT process. More importantly, our results revealed that SOX9 stimulated metastasis through activating Wnt/β-catenin signaling. In summary, this study indicated that the promoting effect of SOX9 on glioma metastasis was, at least in part, through Wnt/β-catenin signaling. The findings in this study highlight the effectiveness and therapeutic potential to utilize SOX9 targeted strategies in the treatment of glioma [1].

1)

Liu H, Liu Z, Jiang B, Peng R, Ma Z, Lu J. SOX9 Overexpression Promotes Glioma Metastasis via Wnt/β-Catenin Signaling. Cell Biochem Biophys. 2015 Feb 26. [Epub ahead of print] PubMed PMID: 25716338.