Verbascoside

Jia et al. aimed to explore the function of verbascoside (VB) in GBM and its effects on GBM cell biological processes via let-7g-5p and HMGA2. Differentially expressed GBM-related microRNAs (miRNAs) were initially screened. Different concentrations of VB were applied to U87 and U251 GBM cells, and 50 μmol/L of VB was selected for subsequent experiments. Cells were transfected with let-7g-5p inhibitor or mimic, and overexpression of HMGA2 or siRNA against HMGA2 was induced, followed by treatment with VB. The regulatory relationships between VB, let-7g-5p, HMGA2 and Wnt/β-catenin signalling pathway were determined. The results showed that HMGA2 was a direct target gene of let-7g-5p. VB treatment or let-7g-5p overexpression inhibited HMGA2 expression and the activation of Wnt/β-catenin signalling pathway, which further inhibited cell viability, invasion, migration, tumour growth and promoted GBM cell apoptosis and autophagy. On the contrary, HMGA2 overexpression promoted cell viability, invasion, migration, tumour growth while inhibiting GBM cell apoptosis and autophagy. We demonstrated that VB inhibits cell viability and promotes cell autophagy in GBM cells by up-regulating let-7g-5p and down-regulating HMGA2 via Wnt/β-catenin signalling blockade [1].

1)
Jia WQ, Zhu JW, Yang CY, Ma J, Pu TY, Han GQ, Zou MM, Xu RX. Verbascoside inhibits progression of glioblastoma cells by promoting Let-7g-5p and down-regulating HMGA2 via Wnt/beta-catenin signalling blockade. J Cell Mol Med. 2020 Jan 30. doi: 10.1111/jcmm.14884. [Epub ahead of print] PubMed PMID: 32000296.