BZW1 is an independent prognosis marker for non-small-cell lung cancer

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Basic leucine zipper and W2 domain-containing protein 1 (BZW1) plays a critical role in cell cycle regulation and is a multifunctional protein involved in cellular apoptosis. Recent studies have shown that BZW1 also plays a critical role in growth control of human cancer cells at the G1/S transition. Regarding that proliferation are dysregulated in cancer, we aim to unravel the role of BZW1 in lung cancer. In our study, we show that BZW1 promotes growth of salivary mucoepidermoid carcinoma. The aim of the study is to determine the respective prognostic value of BZW1.

First, we search public database and analyzed BZW1 protein expression by immunohistochemical staining on tissue microarray samples. Further, we examined BZW1 expression in NSCLC cell lines and verify the functional role of BZW1 in NSCLC cell lines.

By searching public database, we found that BZW1 high expression was significantly correlated with poor prognosis in NSCLC and lung adenocarcinoma. Similar trends were also shown in NSCLC patients tissue array. Knockdown of BZW1 inhibited cell proliferation but did not affect cell invasion in NSCLC cell lines.

In conclusion, BZW1 expression is an independent prognostic factor in NSCLC, especially in lung adenocarcinoma.