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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 for transcriptional control of histone H4 gene at the G1/S transition. Regarding that proliferation are dysregulated in cancer, we aim to unravel the role of BZW1 in lung cancer. Recent studies show that BZW1 promotes growth of salivary muocepodermoid 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, especially in lung adenocarcinoma. Similar trends were also shown in NSCLC patients tissue array. Knockdown of BZW1 inhibited cell migration and invasion but did not affect cell proliferation in NSCLC cell lines.

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