S-phase kinase-associated protein 2 expression interference inhibits breast cancer cell proliferation

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ABSTRACT. We investigated the expression of S-phase kinase-associated protein 2 (SKP2) in breast cancer tissues, and the effects of SKP2-specific small interfering RNA (siRNA) interference on breast cancer cell proliferation. Thirty subjects provided breast cancer tissue samples and 18 subjects provided normal breast specimens for this study. The expression of SKP2 in breast cancer patient tissues and normal breast tissues was detected by western blotting analysis and reverse transcription-polymerase chain reaction. SKP2-specific siRNA was used to decrease SKP2 expression in breast cancer cell line MDA-MB-231. The 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay was used to detect cell proliferation. SKP2 expression in breast cancer tissues was significantly higher than in normal breast tissues (P < 0.05). Two pairs of siRNA specific to SKP2 were required to downregulate SKP2 expression in the breast cancer cell line MDA-MB-231. The MTT assay showed that MDA-MB-231 growth significantly slowed after SKP2 interference. Patients with breast cancer have an increased
SKP2 level. Interference in **SKP2** gene expression can inhibit breast cancer cell growth, suggesting that SKP2 is potentially a new target for breast cancer therapy.

**Key words:** Breast cancer; S-phase kinase-associated protein 2; SKP2; siRNA interference