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Expression and role of cyclophilin B in stomach cancer

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ABSTRACT. We elucidated the expression of ciclosporin protein B (cyclophilin B) in stomach cancer tissue and the correlation between cyclophilin B and clinicopathological parameters, and determined the effect of cyclophilin B on growth and proliferation of stomach cancer cells. Pathological sections of stomach cancer and paracancerous tissue were collected for detecting the expression and distribution of cyclophilin B, using immunohistochemistry, and for analyzing the relationship between the expression levels of cyclophilin B in stomach cancer and the clinical pathological parameters of the patients. A cyclophilin BsiRNA lentiviral (LV-cyclophilin B-siRNA) and corresponding control vector (LV-siRNA-con) were constructed. MTT and cell cycle assays were used to detect the effect of downregulation of cyclophilin B expression on *in vitro* growth and proliferation and clone formation capacity of BGC823 and SGC7901 cells. The cyclophilin B-positive rate of stomach cancer tissue was 84.29% (59/70) and that of paracancerous tissue was 56.00% (28/50). The expression of cyclophilin B in stomach cancer tissue was significantly higher than that in paracancerous tissue ($P < 0.05$). Staining for cyclophilin B was primarily present in the cytoplasm and was seldom present in the cell

nuclei. Downregulation of cyclophilin B significantly inhibited growth and proliferation of stomach cancer cells, cell cycle progression, and *in vivo* tumorigenicity capacity. Cyclophilin B has a high diagnostic value for stomach cancer and its downregulation can effectively inhibit the growth of stomach cancer cells. Thus, cyclophilin B may be a potential therapeutic target for stomach cancer treatment.

Key words: Cell proliferation; Ciclosporin protein B (cyclophilin B); Stomach cancer

