# Immunohistochemical Analysis of Survivin Expression in Primary Breast Cancers

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摘要

## Abstract

BACKGROUND AND PURPOSE: Survivin, an inhibitor of apoptosis, is expressed in fetal tissues but undetectable in normal adult tissues. It is also expressed in most common human cancers. This study evaluated the expression of survivin in breast cancers. METHODS: A monoclonal anti-survivin antibody B1 was generated. Immunohistochemical staining was performed in 226 paraffin sections of primary breast cancers and correlated with the patients' clinicopathological characteristics. RESULTS: Survivin was expressed in the cytoplasm of tumor cells in 59.3% of breast cancers. Expression of survivin was associated with high histologic grade ($p = 0.027$), high mitotic count ($p = 0.014$), positive p53 immunostaining ($p = 0.012$), neu overexpression ($p = 0.018$), and with bcl-2 ($p = 0.001$) and bak ($p < 0.001$) expression. No correlation was found between survivin expression and age, tumor size, estrogen receptor, progesterone receptor or Bax expression. Survivin expression was not significantly associated with overall or disease-free survival. CONCLUSIONS: Survivin expression is correlated with high histologic grade, high mitotic count, p53 overexpression, and bcl-2 expression in breast cancer. It does not have significance as a marker in predicting overall or disease-free survival..