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Immunohistochemical detection and clinicopathological significance of JARID1B/KDM5B and P16 expression in invasive ductal carcinoma of the breast

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ABSTRACT. The aims of this study were to investigate the expression of the H3K4 demethylase, jumonji AT-rich interactive domain 1B (JARID1B/KDM5B) and of p16 (multiple tumor suppressor gene *MTS1*) in breast cancer tissue and determine its clinicopathological significance. JARID1B/KDM5B and P16 protein expression in 176 resected breast cancer specimens and adjacent normal breast tissue was detected by the streptavidin-peroxidase (S-P) immunohistochemical method. The TNM staging grade was assigned according to the World Health Organization (2012) breast classification system. The positive staining rate of JARID1B/KDM5B and p16 protein in cancer tissue was 74.43 and 35.8%, respectively. JARID1B/KDM5B protein expression was positively associated with T grade, Bloom and Richardson (B&R) score and axillary lymph node metastasis ($P < 0.05$). p16 protein expression was negatively associated with T grade, B&R score, and axillary lymph node metastasis ($P < 0.05$). JARID1B/KDM5B and p16 protein expression in breast cancer and adjacent normal breast tissue were negatively correlated ($r = -0.303$, $P < 0.001$). The data demonstrated

that protein expression of p16 and JARID1B/KDM5B is negatively correlated in invasive ductal carcinoma of the breast.

Key words: p16; Invasive ductal carcinoma of the breast; JARID1B/KDM5B; Immunohistochemistry

