Expression profile of the GA733 gene family in colorectal cancer: correlation with clinicopathological parameters

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ABSTRACT. GA733-1/-2/-3 genes have been detected in various types of cancer, although their role has not been fully clarified. GA733-2 and GA733-1 have been correlated with lymph node metastases in laryngeal cancer and liver metastases, respectively. Only a few studies have elucidated the mechanisms regulating GA733-1/-2 expression and their effect on colorectal cancer. Therefore, the expression pattern and the role of the aforementioned molecules in colorectal carcinogenesis were evaluated in this study. Tissue samples were obtained from 40 patients with colorectal cancer with no liver metastases. GA733-1/-2 mRNA levels were evaluated by quantitative real-time polymerase chain reaction. GA733-1/-2 gene expression in noncancerous/cancerous tissues was also correlated with clinicopathological parameters. The GA733-1 mRNA levels were very low; however, the GA733-1 mRNA transcripts were higher in cancerous tissues than in
normal tissues (median ratio, 0.004391/0.00093; range, 0.000001-0.025139/0.000001-0.007761), respectively (P = 0.012). GA733-2 gene expression was higher in noncancerous tissues than in cancerous tissues (median ratio 273.31/115.64; range, 65.24-1,486.41/11.58-1,189.14; P = 0.0000195). Lower GA733-2 expression in cancer tissues appeared to correlate with lymph node metastases (P < 0.05). GA733-1 gene expression was significantly higher in cancerous samples; conversely, the GA733-2 mRNA levels were higher in noncancerous tissues, and were significantly correlated with lymph node perforation in colorectal cancer (P < 0.05). Therefore, GA733-1/-2 mRNA expression levels appear to be a potential predictive marker of tumorigenesis.

**Key words:** GA733 family; Adenocarcinoma; Colorectal cancer; RT-PCR