

## Lgr5 expression correlates with ki-67 expression and is associated with prognosis of colorectal carcinoma and a potential indicator for cancer stem cell

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Lgr5 (leucine-rich-repeat-containing G-protein-coupled receptor 5), has recently been identified as intestinal stem cell marker. We aim to investigate if Lgr5 was correlated with Ki-67 and prognosis in colorectal carcinoma and its potential correlation with cancer stem cells. Lgr5 and Ki-67 expression were evaluated by Immunohistochemistry in 192 colorectal carcinoma specimens. Selecting SP cell was carried out by dyeing of Hoechst 33342, and then, Lgr5 expression in Colo205 SP cell were detected by fluorescent immunocytochemistry method. Lgr5 expression was significantly higher in carcinoma than in normal mucosae ( $P=0.001$ ). Lgr5 was positive correlated with histological grade ( $P=0.001$ ), depth of invasion ( $P=0.001$ ), lymph node metastasis ( $P=0.001$ ), distant metastasis ( $P=0.004$ ), pTNM stage ( $P=0.001$ ), and Ki-67 ( $r=0.446$ ,  $P=0.001$ ). Multivariate analysis showed that Lgr5 had an independent effect on survival ( $P=0.037$ ). In the in vitro study, Hoechst low-staining cells were counted in 7% of Colo205 colon cancer cell line and Lgr5 expression was strikingly stronger in Hoechst low-staining cells than in high-staining cells ( $P=0.001$ ). These findings suggest that Lgr5 may play an important role in progression and prognosis of colorectal carcinoma and may be a potential new therapeutic target for the treatment of colorectal cancer patients. It also could be considered as a potential marker for colorectal cancer stem cell (CSC)

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