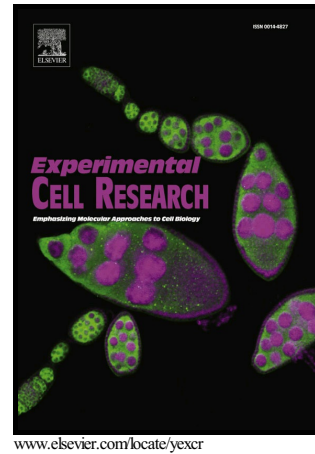


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Involvement of microRNAs-MMPs-E-cadherin in the migration and invasion of gastric cancer cells infected with *Helicobacter pylori*

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ABSTRACT

It has been found that *Helicobacter pylori* (*H. pylori*) is not only the main cause of gastric cancer, but also closely related to its metastasis. E-cadherin cleavage induced by matrix metalloproteinases (MMPs) plays an important role in the tumor metastasis. In the present study, we investigated the role of microRNAs-MMPs-E-cadherin in migration and invasion of gastric cancer cells treated with *H. pylori*. The results showed that *H. pylori* induced migration and invasion of SGC-7901 cells with a down-regulation of E-cadherin expression, which were abolished by MMPs knock down, E-cadherin overexpression, mimics of miR128 and miR148a. MiR128/miR148a inhibitors restored MMP-3/MMP-7 expression, down-regulated E-cadherin level, and accelerated cellular migration and invasion. This study suggests that *H. pylori* induces migration and invasion of gastric cancer cells through reduction of E-cadherin function by activation of MMP-3, -7. The present results also suggest that the activated MMPs/E-cadherin pathway is related with down-regulation of miR128/miR148a in the human gastric cancer cells infected with *H. pylori*.

Abbreviations

Helicobacter pylori, *H. pylori*; matrix metalloproteinases 3, MMP-3; matrix metalloproteinases 7, MMP-7; extracellular N-terminal fragment of E-cadherin,

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