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Establish treatment of *Helicobacter pylori* infection in drug screening platform with iTRAQ

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Helicobacter pylori is a Gram-negative, microaerophilic bacterium. Many studies have showed that *H. pylori* could cause gastric ulcer and lead gastric epithelial cell proliferate abnormally resulting in gastric cancer. As the pathogenesis of *H. pylori* infection is not yet clear understood, iTRAQ (Isobaric Tags for Relative and Absolute Quantification) was used to study the possible molecular mechanisms of infection. The protein expression patterns of *H. pylori* infected human gastric cancer epithelial cell line (AGS cells) were monitored at different time intervals. The profiles were then analyzed by MetaCord software to summarize the most possible pathways responsible for pathogenesis. The most likely pathways involved cytoskeleton remodeling, immune response, apoptosis, and cell adhesion. Quantitative-PCR and Western blot would then be used to verify those pathways, which will then be used not only for studying the mechanisms of infection but also serve as a platform for drug screening.

Keywords: *Helicobacter pylori*, isobaric tags for relative and absolute quantification, MetaCord software