Current Issue
Browse Issues
Search
About this Journal
Instruction to Authors
Online Submission
Subscription
Contact Us
RSS Feed

Acta Medica Iranica
2009;47(4) : 50-54

Assessment of Helicobacter pylori Viability by Flow Cytometry

A Sarafnejad, F Siavoshi, R Safaralizadeh, S Masarat, F Khosravi, R Malekzadeh, B Nikbin, AR Salehi-Nodeh

Abstract:

Background: Flow cytometry is a rapid, sensitive, and reliable method for determination of bacterial viability. Here we assayed the capability of flow cytometry to detect Helicobacter pylori viable cells in both forms of spiral and coccoid. Methods: Viable bacteria stained with Rhodamin 123 and fluoresced with laser beam of 488nm. The rate of Rh123 absorption was determined in both forms of bacteria. Results: In positive control that consisted of live bacteria, the rate of rh123 absorption was at highest, but negative control that consisted of dead bacteria, the rate of Rh 123 absorption was at lowest absorption. This method showed that non-culturable coccoid forms of H. pylori, which could resist environmental stresses, were alive and might be responsible for bacterial transmission and failure in disease treatment. Conclusion: Due to simplicity, reliability, and sensitivity of flow cytometry, this method is preferred to other expensive and no reliable methods such as autoradiography, PCR and Electron microscopy used for assessment viability.

Keywords:

Bacterial viability

TUMS ID: 3148

Full Text HTML Full Text PDF 131 KB

top ▲