

Helicobacter pylori induces mitochondrial DNA mutation and reactive oxygen species level in AGS cells

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Abstract :

To investigate the role of ROS in the helicobacter pylori (Hp) induced mtDNA mutations, AGS cells were treated by extracts of Hp11638 or Hp11638M. The ROS levels, cytochrome C reductions, and intracellular ATP levels were measured. The coding region and the D-Loop region were amplified and sequenced. Results showed the ROS levels, cytochrome C reduction and mtDNA mutations were markedly increased and cell viability decreased after treatment with both Hp extracts, and 616 mutations were detected in D-Loop region and 3 heteroplasmic point mutations in the Cytb gene. No mutations were found in the coding region. The mutation rates of mtDNA D-Loop region were positively correlated with the ROS levels and negatively to the ATP levels.

Key Word :

Helicobacter pylori, Reactive Oxygen Species, Mitochondrial DNA, Mutation

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