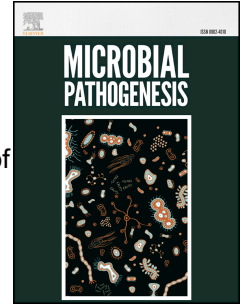


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Evaluation of Nitric Oxide Production and proliferation activity of recombinant protein of *Helicobacter pylori* on Macrophages

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Abstract

Introduction: *Helicobacter pylori* is a specific pathogen found in the human stomach. The neutrophil-activating protein (HP-NAP) of *Helicobacter pylori* is a major virulence factor of this pathogen which little is known about its effect on immune system. The aim of this study is to assess the effect of recombinant Hp-NapA *Helicobacter pylori* on the production of nitric oxide (NO) and the activity and viability of macrophages derived from mice peritoneal.

Material and method: The NapA protein of *Helicobacter pylori* was cloned and purified. Mice peritoneal macrophages were purified and cultured. Different concentrations of recombinant protein were used to stimulate macrophages which had received LPS simultaneously. Cell survival and nitric oxide (NO) production were measured subsequently.

Results: The results elucidated that recombinant protein induced a significant NO production at a dose of 30 µg/ml ($P < 0.01$) compared to the control which was accompanied by increase in the viability of macrophages at the 30 µg/ml.

Conclusion: According to our findings, recombinant protein stimulates peritoneal macrophages to produce NO and does not have cytotoxic effect. Therefore, it is suggested that recombinant Hp-NapA can be studied further as a vaccine candidate and Immunotherapy purposes.

Keywords: *helicobacter pylori*, Nitric Oxide, recombinant protein, viability.

Introduction

Helicobacter pylori (*H. pylori*) is a specific pathogenic bacteria in the human stomach and is colonized in the stomach of at least over half of the world's population. The prevalence of *H.*

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