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Title:	Functional characterization of <i>Helicobacter pylori</i> TlyA: Pore-forming hemolytic activity and cytotoxic property of the protein
Authors:	Lata, K. (/jspui/browse?type=author&value=Lata%2C+K.) Paul, Karan (/jspui/browse?type=author&value=Paul%2C+Karan) Chattopadhyay, K. (/jspui/browse?type=author&value=Chattopadhyay%2C+K.)
Keywords:	Hemolysin Cytotoxin TlyA <i>Helicobacter pylori</i> Bacterial toxin
Issue Date:	2014
Publisher:	Academic Press Inc.
Citation:	Biochemical and Biophysical Research Communications, 444(2), pp.153-157.
Abstract:	<p><i>Helicobacter pylori</i> is a human specific gastric pathogen. <i>H. pylori</i> pathogenesis process involves a number of well-studied virulence factors that include the 'vacuolating cytotoxin' and the 'cytotoxin associated gene A'. Analysis of the <i>H. pylori</i> genome, however, indicates presence of additional virulence factors that are yet to be characterized in molecular detail. For example, <i>H. pylori</i> genome harbors a gene that has potential to encode a protein with sequence similarity to those of the TlyA-like proteins of several pathogenic bacteria. Earlier studies have indicated potential association of this <i>H. pylori</i> tlyA gene in the virulence mechanism of the organism. Despite such notions, however, the TlyA-like protein of <i>H. pylori</i> has not been studied previously in molecular detail. In particular, purified form of <i>H. pylori</i> TlyA has never been studied before toward exploring its functional properties. Here, we report characterization of the <i>H. pylori</i> TlyA protein purified from the recombinant over-expression system in <i>Escherichia coli</i>. Purified form of the recombinant TlyA exhibits prominent hemolytic activity against human erythrocytes, presumably via formation of pores of specific diameter in the cell membrane. Purified TlyA also triggers prominent cytotoxic responses in human gastric adenocarcinoma cells. Altogether, our study establishes <i>H. pylori</i> TlyA as a potential virulence factor of the organism.</p>
URI:	<a href="https://www.sciencedirect.com/science/article/pii/S0006291X14000266?via%3Dihub">https://www.sciencedirect.com/science/article/pii/S0006291X14000266?via%3Dihub</a> ( <a href="https://www.sciencedirect.com/science/article/pii/S0006291X14000266?via%3Dihub">https://www.sciencedirect.com/science/article/pii/S0006291X14000266?via%3Dihub</a> ) <a href="http://hdl.handle.net/123456789/3033">http://hdl.handle.net/123456789/3033</a> ( <a href="http://hdl.handle.net/123456789/3033">http://hdl.handle.net/123456789/3033</a> )
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