Title:	Understanding the Inhibition of Pro-inflammatory Responses Mediated by Vibrio vulnificus OmpU in Macrophages.
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Abstract:	Inflammation manifests the innate immune responses against pathogen attacks or tissue damage. Focus of our laboratory is to understand how inflammatory pathways are modulated by Gram-negative enteric bacteria and the underlying inflammatory immune signalling networks. We also want to understand pathogenesis patterns of them. Any pathogenic bacteria can bring a wide variety of virulence factors to manipulate the host system, and understanding the role of these virulence factors in the modulation of host cellular responses is important in understanding bacterial pathogenesis and eventually in better designing of vaccines and therapies. One such pathogenic bacteria is Vibrio vulnificus, which is among the most lethal foodborne pathogens. This study is a part of the characterization of one of the key virulence factor of Vibrio vulnificus, Outer membrane protein U (OmpU), towards manipulation of the host's innate immune responses. It has been already observed by our group that V. vulnificus OmpU generates pro-inflammatory as well as anti-inflammatory responses. This anti-inflammatory response constitutes suppression of pro-inflammatory responses. In this study, we tried to explore the mechanism of OmpU-mediated suppression of pro-inflammatory responses in macrophages. In this direction, overall, our results showed the upregulation of gene expression of negative regulators of TLR pathway at the transcript level in response to OmpU. Additionally, we observed the probable involvement of Akt in the upregulation of negative regulators, and also the probability of involvement of a receptor in mediating this upregulation of TLR pathway inhibitors in OmpU-treated macrophages.
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