Library
Indian Institute of Science Education and Research Mohali

Please use this identifier to cite or link to this item: http://hdl.handle.net/123456789/2809

Title:	Vibrio cholerae Porin OmpU Induces Pro-Inflammatory Responses, but Down-Regulates LPS-Mediated Effects in RAW 264.7, THP-1 and Human PBMCs
Authors:	Sakharwade, S.C. (/jspui/browse?type=author&value=Sakharwade%2C+S.C.) Sharma, P.K. (/jspui/browse?type=author&value=Sharma%2C+P.K.) Mukhopadhaya, Arunika (/jspui/browse?type=author&value=Mukhopadhaya%2C+Arunika)
Keywords:	Vibrio cholerae OmpU Involvement Observations
Issue Date:	2013
Publisher:	PLOS
Citation:	PLoS ONE, 8(9).
Abstract:	Vibrio cholerae porin OmpU plays a crucial role in the survival of the organism in the human gut. Various observations suggest critical involvement of OmpU in V. cholerae pathogenesis. However, OmpU is poorly characterized in terms of its ability to evoke cellular responses, particularly in the context of host immune system. Therefore, towards characterizing V. cholerae OmpU for its host immunomodulatory functions, we have studied the ability of OmpU to elicit pro-inflammatory responses in a range of immune cells which include, mouse RAW 264.7 macrophages, human THP-1 monocytes and human PBMCs. We have observed that purified OmpU induces pro-inflammatory responses in terms of production of NO, TNFα and IL-6. Interestingly, pre-treatment of the cells with OmpU suppresses the production of NO, TNFα, IL-6 as well as IL-12 upon subsequent activation with LPS. Our results therefore suggest that V. cholerae OmpU may have a differential regulatory role in terms of host immunomodulatory function: it can induce pro-inflammatory responses in target host immune cells, whereas it can also exert suppressive effect on LPS-induced pro-inflammatory responses. In addition, our study indicates that purified OmpU may have the ability to skew the Th1 response towards the Th2 response, presumably via suppression of IL-12 production.
URI:	https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0076583 (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0076583) http://hdl.handle.net/123456789/2809 (http://hdl.handle.net/123456789/2809)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format	
Need to add pdf.odt (/jspui/bitstream/123456789/2809/1/Need%20to%20add%20pdf.odt)		8.63 kB	OpenDocument Text	View/Open (/jspui/bitstream/12345

Show full item record (/jspui/handle/123456789/2809?mode=full)

(/jspui/handle/123456789/2809/statistics)

Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.