Abstract

Vibrio cholerae is a human pathogen that causes fatal disease,known as,cholera.V. cholerae have multiple virulence factors like accessory colonization factor (acf), Toxinco-regulated pilus (TCP), cholera toxin (CT) etc. that help in pathogenesis of V. cholerae.Gram negative bacteria have outer membrane proteins (Omp), most of them are porins which form transmembrane channels.OmpU is an outer membrane porin protein that had been reported to provide resistance against bile and anti-microbial peptides in V. cholerae,adherence in V. vulnificas and effector of pathogenesis in V. splendidas. V. cholerae colonizes intestinal epithelial cells using a complex interplay of colonization factors. Work by other people from our lab showed that OmpU have a characteristic dual nature of immune responses. OmpU up-regulates the expression of pro-inflammatory moleculesin monocytes and macrophages. But it had also been observed that OmpU inhibits LPS (lipopolysaccharide) mediated effects. To study whether there is any effect of OmpU on the chemokines crucial for neutrophil recruitment, we have probed THP-1 human monocytic cell line with purified recombinant OmpU protein. We observed that OmpU, inTHP-1 monocytes induces the expression of all the important chemokines (i.e. IL-8,CXCL-1, CXCL-2, CXCL-5 and CCL-5 (RANTES), involved in neutrophil recruitment).