Title:	Understanding Vibrio vulnificus OmpU-mediated anti-inflammatory response in murine macrophages.
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Abstract:	Inflammation is the fundamentally the body's protective response to any insult or tissue injury. Microbes, necrotic cells, or damaged tissue stimulate inflammatory cells through various receptors and pathways, causing the release of soluble factors known as inflammatory mediators at the affected site in order to eliminate them while causing minimal collateral damage. Earlier studies from the lab have revealed that the Vibrio vulnificus outer membrane porin protein, OmpU, activates macrophages and generates proinflammatory responses. Another fascinating finding from the lab was that the same ligand, OmpU, triggers anti-inflammatory responses in macrophages via scavenger receptor (LOX-1). Our project intends to study how the Vibrio vulnificus OmpU generates anti-inflammatory responses in macrophages and what signalling mediators are involved in the anti-inflammatory pathway. To begin with, we have first looked at the expression profile of different MAPKs, which are well-known early cellular responses to any stress that cells encounter through western blotting. Inhibitors studies indicate that JNK MAPK is exclusively involved in generating proinflammatory responses, whereas p38 MAPK is actively involved in providing anti-inflammatory responses. Thus, p38 appears to be a potential molecule implicated in the generation of an anti-inflammatory response. Next, we have aimed to find upstream molecule that could activate p38 wherein we found the Akt molecule in mediating anti-inflammatory activity in response to OmpU based on the literature findings. We also investigated the involvement of internalization in eliciting an anti- inflammatory response in primary cells.
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