Participation of the Salmonella OmpD porin in the infection of RAW264.7 macrophages and BALB/c mice

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 Salmonella Typhimurium is the etiological agent of gastroenteritis in humans and enteric fever in mice. Inside these hosts, Salmonella must overcome hostile conditions to develop a successful infection, a process in which the levels of porins may be critical. Herein, the role of the Salmonella Typhimurium porin OmpD in the infection process was assessed for adherence, invasion and proliferation in RAW264.7 mouse macrophages and in BALB/c mice. In cultured macrophages, a ?ompD strain exhibited increased invasion and proliferation phenotypes as compared to its parental strain. In contrast, overexpression of ompD caused a reduction in bacterial proliferation but did not affect adherence or invasion. In the murine model, the ?ompD strain showed increased ability to survive and replicate in target organs of infection. The ompD transcript levels showed a down-regulation when Salmonella resided within cultured macrophages and when it

colonized target organs in infected mi