

EFFECTS OF *SALMONELLA ENTERICA* SEROVAR TYPHIMURIUM
INFECTION IN THE EPITHELIAL INTEGRITY, INFLAMMATION AND
IMPLICATION OF MAP KINASES IN RESPONSE TO THE INFECTION IN CELLS

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Salmonella is a facultative intracellular pathogen that causes diseases ranging from self-limiting enteritis to typhoid fever. An important feature of *S. Typhimurium* (ST) pathogenesis is the induction of a profound inflammatory response in the intestinal epithelium. In the present work we have shown that ST diminishes the transmonolayer electrical resistance in T84 cells and significantly induces IL-8 secretion in infected cells. Kinetic studies revealed that ERK1/2, p38, and JNK MAP kinases were activated in cells infected with ST. We demonstrated that the infection of cells with ST activates the transcription factor NF- κ B DNA binding activity and phosphorylation of I κ B- α , resulting in the production of proinflammatory cytokine IL-8. The number of intracellular bacteria recovered in T84 cells may be responsible for the diminution of the resistance and this invasion is due to the activation of Rac-1 and Cdc-42 Rho-GTPases by ST.

Key words: *S. Typhimurium*, MAPK, NF- κ B, IL-8, Rho-GTPases.

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