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Surfactin Inhibits Mycoplasma-Induced Transcription of Interleukin-β Inducible nitric oxide synthase, and Nitric oxide production in Raw 264.7 cells

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We investigated the effect of mycoplasma on Raw 264.7 cells and the anti-inflammatory activity of the surfactin. Raw 264.7 cells were first treated with M. hyopneumonaiae (100 μg/ml) and surfactin M. hyopneumoniae induce the transcription of proinflammatory cytokine such as cyclooxygenase-2 (COX-2), tumor necrosis factor-a (TNF-α), interluekin-1β (IL-1β) and 6 (IL-6) and inducible nitric oxide synthease (iNOS) in Raw 264.7 cell. Results showed COX-2 mRNA transcription was decreased by 21% and IL- 1β and IL-6 were inhibited by 71~73 %, versus surfactin-untreated cells. This surfatant exhibited that the mycoplasma induced increase in the transcription of proinflammatory cytokines in RAW 264.7 cells, and surfactin inhibited those changes in a dose-dependant manner.

Keyword: Cytokine, Nitric oxide, Mycoplasma, surfactin