

Suppression of Fas ligand expression on endothelial cells by arsenite through reactive oxygen species.

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摘要

Abstract

Chronic exposure to arsenite is associated with vascular disease, such as arteriosclerosis. However, the cellular mechanisms for vascular disease in response to arsenic are not well known. The present study has demonstrated that arsenite not arsenate decreased the Fas ligand (FasL) expression on ECV304 cells through reactive oxygen species. Incubation of ECV304 cells with arsenite decreased the FasL expression and increased the intracellular peroxide levels. In addition, hydrogen peroxide was found to suppress FasL expression in a dose-dependent manner. The antioxidant, N-acetyl-cysteine, blocked the suppression of FasL expression in response to arsenite. These data suggested that arsenite initiates endothelium dysfunction, at least partly, by suppressing the FasL expression through activating reactive oxygen species sensitive endothelial cell signaling