

Effects of Glutamine on the Inflammatory Response of Pulmonary Epithelial Cells

Sung-Ling Yeh and Yu-Chen Hou

School of Nutrition and Health Sciences, Taipei Medical University

Pulmonary epithelium is the first line of defense against environmental exposure and represents an innate host response by neutrophil recruitment due to pathogen challenge. This study investigated the inflammatory response of human pulmonary epithelial cell (BEAS-2B) induced by lipopolysaccharide (LPS) under the treatment of glutamine (GLN, 0-5mM). Cells were cultured in different levels of GLN then stimulated by 100 ng LPS/mL for 3 or 12 hr. Cell proliferation was not affected by different levels of GLN. Protein concentration and mRNA expression of TNF- α and IL-8 were lower at 2.5 and 5mM GLN. Reduction of NF- κ B p65 subunit was also noted at higher concentration of GLN. These results suggest that GLN at high levels attenuated LPS-induced inflammation in pulmonary epithelial cells.

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