

Glutathione and inflammatory disorders of the lung.

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Source

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Abstract

Glutathione (GSH) is an essential tripeptide present in most eukaryotic cells. Because of its sulfhydryl group, GSH is a versatile molecule capable of protecting cells against oxidants and toxic xenobiotics. However, it also plays key roles in multiple metabolic pathways, such as the synthesis of certain leukotrienes, proteins, and DNA precursors as well as the activation of enzymes, the regulation of immune responses and others. Not only is GSH synthesized by cells for local use but it also participates in an elaborate intercellular exchange process regulated by the gamma-glutamyl cycle. Extracellular GSH in plasma and in alveolar epithelial lining fluid is thus subject to variations according to the degree of expression of gamma-glutamyl cycle enzymes and the rate of consumption of GSH by electrophilic molecules. Bronchoalveolar lavage has allowed us to observe many of these variations of GSH within the extracellular environment of the normal and diseased human lung. Studies of lung GSH have lead to a better understanding of pathogenic processes and have stimulated investigations of novel therapeutic approaches in lung inflammatory disorders.



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