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Medicine in focus

Surfactant protein A: A key player in lung homeostasis

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Abstract

The respiratory tract is continually exposed to various insults that are a permanent threat to the maintenance of lung homeostasis. Repair of the parenchyma structure, particularly of the alveolar epithelium, requires complex cellular strategies. Among the molecular components that play an important role in these processes are the surfactant proteins (SPs), particularly SP-A. The present

review examines current evidence regarding the role of SP-A in lung host defence mechanisms through its implication in innate/adaptive immunity of the lung and epithelium integrity and repair. New information on SP-A deficiency in various forms of pulmonary diseases could help define therapeutic strategies aimed at restoring functional SP-A within the alveolar structure.

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Abbreviations

AEC, Alveolar Epithelial Cell; CRD, Carbohydrate Recognition Domain; IL, Interleukin; ILD, Interstitial Lung Disease; IPF, Idiopathic Pulmonary Fibrosis; LAP, Latency Associated Peptide; LPS, Lipopolysaccharides; NK, Natural Killer; SNP, Single Nucleotide Polymorphism; SP, Surfactant Protein; TGF, Transforming Growth Factor; TLR, Toll-like Receptor

Keywords

Surfactant protein A; Collectin; Lung homeostasis; Lung fibrosis; Lung cancer

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