

***Aspergillus fumigatus* induces microRNA-132 in human monocytes and dendritic cells.**

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Abstract

Aspergillus fumigatus is responsible for severe and often fatal infections in immunocompromised patients. The human immune response against this pathogenic mould is still not fully understood. Recently, microRNAs (miRNAs) have been characterized as regulators of inflammation and immune response in various diseases. MiRNAs specifically bind to mRNA target sequences, thereby leading to gene silencing by target degradation and/or translational repression. To investigate the possible role of miRNAs during *A. fumigatus* infection, we studied the expression of two major immune relevant miRNAs, miR-132 and miR-155, in human monocytes and dendritic cells (DCs). Both cell types are crucial for the immune response against *A. fumigatus*. Here, we demonstrate for the first time that miR-132 and miR-155 are differentially expressed in monocytes and DCs upon stimulation with *A. fumigatus* or bacterial lipopolysaccharide (LPS). Interestingly, miR-132 was induced by *A. fumigatus* but not by LPS in both cell types. Our data suggest that miR-132 may be a relevant regulator of the immune response directed against *A. fumigatus*.

Beteiligte Forschungseinheiten

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