Title: Mitochondrial reactive oxygen species regulate fungal protease-induced inflammatory responses

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PII: S0300-483X(17)30008-2
DOI: http://dx.doi.org/doi:10.1016/j.tox.2017.01.008
Reference: TOX 51811

To appear in: *Toxicology*

Received date: 14-11-2016
Revised date: 6-1-2017
Accepted date: 9-1-2017

Please cite this article as: Kim, Y.H., Lee, S.-H.,Mitochondrial reactive oxygen species regulate fungal protease-induced inflammatory responses, *Toxicology* (2017), http://dx.doi.org/10.1016/j.tox.2017.01.008

Mitochondrial reactive oxygen species regulate fungal protease-induced inflammatory responses

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Abstract

Epidemiological studies have shown that fungal infections are a main cause of respiratory tract diseases, such as asthma, bronchopneumonia, intoxication, and invasive fungal disease. Fungi such as *Aspergillus* and *Candida* species have become increasingly important pathogens as the global climate changes. Accordingly, in this study, we evaluated the toxicological potential of *Aspergillus* protease in the lower respiratory tract. Exposure of *Aspergillus* protease to A549 cells induced upregulation of tumor necrosis factor (TNF)-α, monocyte chemoattractant protein (MCP)-1, and intercellular adhesion molecule (ICAM)-1 mRNAs and increased production of interleukin (IL)-8 and MCP-1 protein through enhanced