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New insights on Chitinases immunologic activities

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### Abstract

Mammalian chitinases and the related chilectins (ChiLs) belong to the GH18 family, which hydrolyse the glycosidic bond of chitin by a substrate-assisted mechanism. Chitin the fundamental component in the coating of numerous living species is the most abundant natural biopolymer. Mounting evidence suggest that the function of the majority of the mammalian chitinases is not exclusive to catalyze the hydrolysis of chitin producing

### Match Overview

1	<b>CrossCheck</b> 217 words Koch, B. E. V., J. Stougaard, and H. P. Spaink. "Keeping track of the growing number of biological functions of chitinases and lung function in COPD", Human Genetics, 1	5%
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7	<b>CrossCheck</b> 24 words L Malaguarnera. "Chitotriosidase gene expression in Kaposi's sarcoma", J Biol Chem, 1	1%

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[www.ncbi.nlm.nih.gov/pmc/articles/PMC3864643/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3864643/)

Immune and regulatory effects of chitin, chitinases (C), and chitinase-like proteins .... All the rest are CLPs (also termed chitolectins) that lack chitinase activity as a ... Insights into the roles of these moieties have only recently begun to be elucidated. .... Chitin regulation of immune responses: an old molecule with new roles.

### Chitin, Chitinases and Chitinase-like Proteins in Allergic ...

[www.ncbi.nlm.nih.gov/pmc/articles/PMC2649864/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2649864/)

24 Feb 2009 ... Recently, several studies evaluated immunologic effects of chitin in vivo and in vitro and revealed new aspects of chitin regulation of innate and adaptive immune ... a number of studies describing more specific immunologic activities of .... When viewed in combination, these studies provide noble insights....

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[www.molcellped.com/content/2/1/3](http://www.molcellped.com/content/2/1/3)

The first immune stimulatory activity of chitin and chitin derivatives in mammals .... insights on how chitinases/chitinase-like proteins (CLPs), including BRP-39, may be ... Studying chitinases in New York City firefighters after World Trade Center....

### The Chitin Connection - mBio - American Society for Microbiology

[mbio.asm.org/content/3/2/e00056-12.full](http://mbio.asm.org/content/3/2/e00056-12.full)

23 Mar 2012 ... Findings from this study provide important new insights into chitin ... with chitinolytic



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CG Lee, CA Da Silva, JY Lee, D Hartl... - ... opinion in immunology, 2008 - Elsevier

... Critical Care Medicine, Yale University School of Medicine, 300 Cedar Street (S441 TAC), PO Box 208057, New Haven, CT ... adjuvant effects of chitin in allergen-induced type 1 or type 2 inflammation and provided insights into the important roles of chitinases and chitinase ...

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[HTML] Role of chitin and chitinase/chitinase-like proteins in inflammation, tissue remodeling, and injury

CG Lee, CA Da Silva, CSD Cruz... - Annual review of ..., 2011 - ncbi.nlm.nih.gov

... Care Medicine, Department of Internal Medicine, Yale University School of Medicine, New Haven, Connecticut ... meal in the mosquito (23), and in fungi, which produce chitinases to penetrate the ... in the life cycle of pathogens, chitin synthesis inhibitors and chitinase inhibitors have ...

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New insights into innate immune mechanisms underlying allergenicity

M Wills-Karp, A Nathan, K Page, CL Karp - Mucosal immunology, 2010 - nature.com

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P Gong, X Guan, LS Inouye, M Pirooznia... - ... science & technology, 2007 - ACS Publications

... Toxicogenomic Analysis Provides New Insights into Molecular Mechanisms of the Sublethal Toxicity of 2,4,6 ... Chitinase activity assays confirmed down-regulation of chitinase genes as indicated by array and ... are lengthy (14–56 days) and do not provide mechanistic insight for the ...

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However, the chitinase activity of AMCase may not mediate all the biological ..... Elias

JA, Lee CG, Zheng T, Ma B, Homer RJ, Zhu Z. New insights into the ...

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