

ALLERGY

# MORE DUNG HILLS

20.07.2010

I wasn't sure whether to continue here the 2008 dung hill blog post or just opening a new thread as a colleague just entered my office [with some news.](#)

The substance is a plant sugar molecule called arabinogalactan and stops excessive immune system reactions in children if inhaled in their first year, the scientists at the Ruhr University Bochum (RUB) wrote in the Journal of Allergy and Clinical Immunology. It has long been known that children who grow up on farms are less prone to allergies and allergic asthma, the researchers said in a statement on Monday. However, just what it is that protects them remained a riddle for a long time. Study leader Dr. Marcus Peters, from the Department of Experimental Pneumology, said that finding the protective substance was like looking for the proverbial needle in the haystack, the statement said.

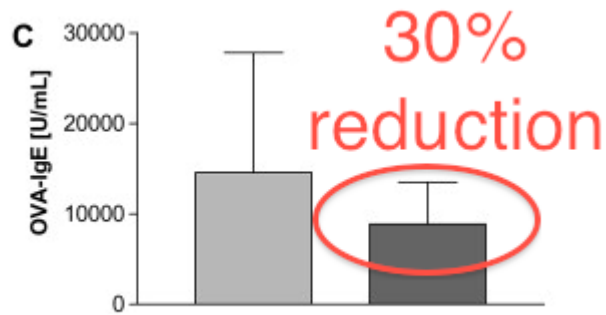
So, none of the recently accused bacteria but a [arabinose / galactose monosaccharide](#) (of *Alopecurus pratensis*)!

[Not even of myco\)bacterial origin?](#)

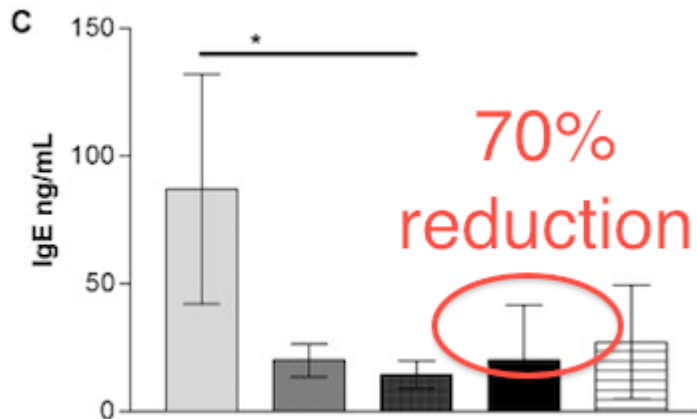
The key question is certainly if there is a contamination with LPS

To investigate potential contamination with LPS, its concentration in the arabinogalactan preparation was assessed in a Toll like receptor-4/MD-2/CD14 transfected cellular assay and was found to be 0.06% (wt/wt). With each application of 5  $\mu$ g arabinogalactan, mice thus also received 3 ng LPS. Control experiments showed that LPS applied in such concentration resulted only in marginal, nonsignificant immunomodulatory activity in the OVA mouse model (see this article's Fig E2 in the Online Repository).

Judge yourself if the 30-40% reduction is a marginal effect



compared to 60-70% reduction by arabinogalactan.



I wonder also why the LPS figure doesn't give ova but only total IgE effects (changing labels / units between figures is otherwise a neat trick to hide something).

Anyway, the authors correctly note that this is also surprising

Because there are reports showing that pollen-associated molecules possess some adjuvant Th2-promoting properties, it is surprising that exposure to high concentrations of pollen is associated with protection rather than with sensitization.

Yea, yea.

