

New discovery paves the way for new diagnosis of serious lung disease

March 2 2009

(PhysOrg.com) -- The discovery by Uppsala University researchers of a previously unknown protein in the cells of the lower air ways brings new potential for early diagnosis of a serious lung disease. The findings, published in the Web edition of the American journal *Proceedings of the National Academy of Sciences*, can also provide new knowledge of the cause of common diseases like asthma and chronic bronchitis.

Researchers at Uppsala University and Uppsala University Hospital have identified a protein in the lungs that is important to the immune defense system in an autoimmune lung disorder that is not seldom fatal. The newly discovered protein, called KCNRG, occurs in cells in the lower air ways found on the surface of the bronchia. This observation enables researchers to study more closely the first phase of the autoimmune disease, that is, when the immune system erroneously attacks the body's own tissues instead of attacking foreign organisms like bacteria or viruses. The discovery also provides new avenues for developing new diagnostic methods.

The researchers used an unusual hereditary autoimmune disorder, autoimmune polyendocrine syndrome type 1 (APS-1), as a model. Patients with this disease are afflicted by the immune system erroneously attacking several tissues, such as the liver, insulin-producing cells, and adrenal glands.

"Only now have we understood that the lungs are attacked as well and that in many cases this is the most serious component of the disease

APS-1," says Dr. Mohammad Alimohammadi.

"It's our hope that the discovery of the protein that the immune system targets, besides making early diagnosis possible, will also be possible to use in understanding the mechanism behind the occurrence of common public health disorders like asthma and chronic bronchitis."

More information: Read the article on [PNAS website](#).

Provided by Uppsala University

Citation: New discovery paves the way for new diagnosis of serious lung disease (2009, March 2) retrieved 27 April 2024 from

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