



## Findings at SickKids indicate new options for treating cystic fibrosis.

**October 2011** — In a study led by Dr. Daniela Rotin, Senior Scientist at SickKids and Professor of Biochemistry at the University of Toronto, mice were specially bred to lack the protein Nedd<sub>4</sub>L in the lungs. These mice developed lung disease similar to cystic fibrosis, including inflammation and obstructed airways. This study also confirmed a link between Nedd<sub>4</sub>L and increased transport of sodium across a membrane channel ENaC. In CF, increased sodium absorption contributes to the thick and sticky mucus that results in severe and chronic lung infections.

According to Dr. Rotin, these results indicate new options for developing treatments for cystic fibrosis. “If we can enhance the function or increase the amount of Nedd<sub>4</sub>L, or inhibit ENaC in the lungs, we may be able to alleviate symptoms of the disease.”

When researchers sampled lung tissue from the mice, they found increased ENaC activity leading to symptoms in the mouse lung that paralleled the disease in persons with cystic fibrosis. This is the first mouse model to exhibit cystic fibrosis-like lung disease, providing a valuable resource for all researchers to test new ideas and therapies for CF.

“Dr. Rotin’s research is another example on how we are closing the gap on cystic fibrosis. It is exciting to learn that there may be a novel way to alleviate symptoms and improve the quality of life for those living with CF,” said Maureen Adamson, CEO, Cystic Fibrosis Canada.

Dr. Rotin, the lead author of a number of recently published studies on this topic, discussed the team’s findings at the 7<sup>th</sup> International Symposium on Aldosterone and the ENaC/Degenerin Family of Ion Channels conference sponsored by the American Physiological Society.

*Dr. Daniela Rotin has received over \$1.4 million in funding from Cystic Fibrosis Canada. Results from this research may prove useful in developing unique treatments for CF.*

