

# Cystic Fibrosis Research News

**Title:**

Interferon response of the cystic fibrosis bronchial epithelium to major and minor group rhinovirus infection

**Authors:**

Aline Schögler<sup>1,2,3</sup>, Andrea B. Stokes<sup>1,2</sup>, Carmen Casaulta<sup>1</sup>, Nicolas Regamey<sup>4</sup>, Michael R. Edwards<sup>5</sup>, Sebastian L. Johnston<sup>5</sup>, Andreas Jung<sup>6</sup>, Alexander Moeller<sup>6</sup>, Thomas Geiser<sup>2,7</sup>, and Marco P. Alves<sup>1,2</sup>

**Affiliations:**

<sup>1</sup>Division of Paediatric Respiratory Medicine, University Children`s Hospital, Bern, Switzerland

<sup>2</sup>Department of Clinical Research, University of Bern, Bern, Switzerland

<sup>3</sup>Graduate School for Cellular and Biomedical Sciences, University of Bern, Bern, Switzerland

<sup>4</sup>Division of Paediatric Respiratory Medicine, Lucerne Children`s Hospital, Lucerne, Switzerland

<sup>5</sup>Airway Disease Infection Section, MRC and Asthma UK Centre in Allergic Mechanisms of Asthma, National Heart and Lung Institute, Imperial College London, London, United Kingdom

<sup>6</sup>Division of Respiratory Medicine, University Children's Hospital, Zürich, Switzerland

<sup>7</sup>Department of Pulmonary Medicine, University Hospital of Bern, Bern, Switzerland

**What was your research question?**

Our aim was to evaluate the innate (natural) immune antiviral response of bronchial (lung) epithelial cells (BECs) isolated from cystic fibrosis (CF) children towards Rhinoviruses (RVs) infection.

**Why is this important?**

A simple common cold induced by RVs can cause in CF children serious pulmonary exacerbation and may lead to hospitalization. There are currently few beneficial options to treat RV-induced complications in CF patients.

**What did you do?**

To better understand the mechanisms of RV-induced pulmonary exacerbation of CF, we used an in vitro system to study BECs isolated from healthy and CF children. The BECs were infected with two types of RVs (major and minor group) and their antiviral response was evaluated by different methods.



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## **What did you find?**

Major group RV infection of CF BECs resulted in a diminished immune antiviral response in comparison to healthy BECs. Contrary to major group RV, the antiviral response upon minor group RV infection was increased in CF in comparison to healthy BECs.

## **What does this mean and reasons for caution?**

While major and minor group RVs are able to trigger acute pulmonary exacerbation in CF patients, our data show distinct immune antiviral response mounted by CF BECs against major and minor group RVs. Our study suggests that different treatment approaches may be designed depending on the type of RV associated with acute CF exacerbation.

## **What's next?**

Since our in vitro study is based on a small number of subjects, our data need further confirmation in a larger study population.

## **Original manuscript citation in PubMed**

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