



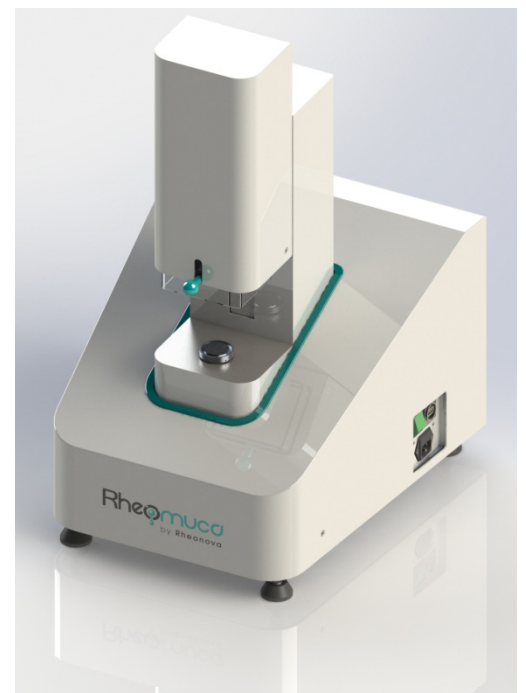
Rheomuco

## Switch to mucus analysis

COPD, cystic fibrosis and severe asthma are characterised by a modification of mucus composition. The viscoelastic properties of the mucus are makers of this change.

Rheomuco is specifically designed to perform biophysical analysis of mucus, while remaining an easy-to-use device.

Our innovative equipment measures the viscoelasticity of mucus and offers you real-time high-quality rheological data which is easy to interpret.



Rheomuco by Rheonova

### Biophysical makers for each research stage

#### Fundamental

- Physiopathology
- Drug delivery
- Pharmacodynamics

#### Translational

- *In Vitro* efficiency
- Drug benchmarking
- Medical devices benchmarking

#### Clinical trials

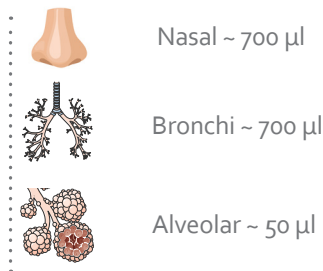
- *In Vivo* efficiency
- Dose range finding
- Secondary outcomes

Looking for new and easy way to analyze the mucus?  
We are thrilled to present Rheomuco. Contact us to set-up a demo!

[contact@rheomuco.com](mailto:contact@rheomuco.com) // [www.rheomuco.com](http://www.rheomuco.com)

## Sources of mucus samples

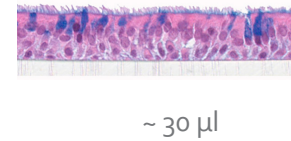
### Human



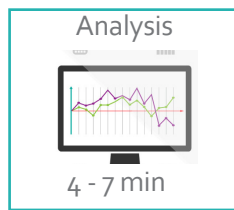
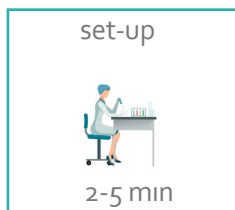
### Animal



### Epithelia cells



## Rheomuco: an easy-to-use device



### Advantages

Assay duration  
Operators  
Analysis  
Additional supply

Rheomuco	Rheometer	Microrheology
10 min	1 h	2h
Research assistant	Rheology specialist	Physics specialist
Automatic	Manual	Computer assisted
No	Compressed air	Microscope

## Output Results

### Viscoelastic modulus

- Elastic modulus
- Viscous modulus

### Damping factor

### Crossover Strain

### Crossover yield stress

### Elastic force (EF)

$$G_p^*$$

$$G_p'$$

$$G_p''$$

$$\tan(\delta)_p$$

$$\gamma_c$$

$$\tau_c$$

$$G_p^*, \tau_c$$

General consistency of the mucus at rest, molecular network strength

Elastic characteristic of mucus at rest, energy storage capacity

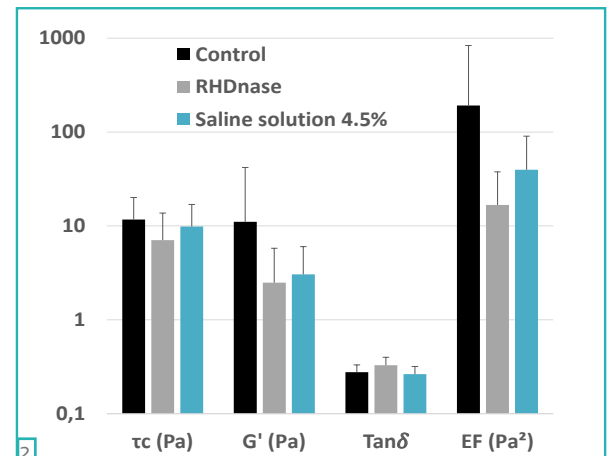
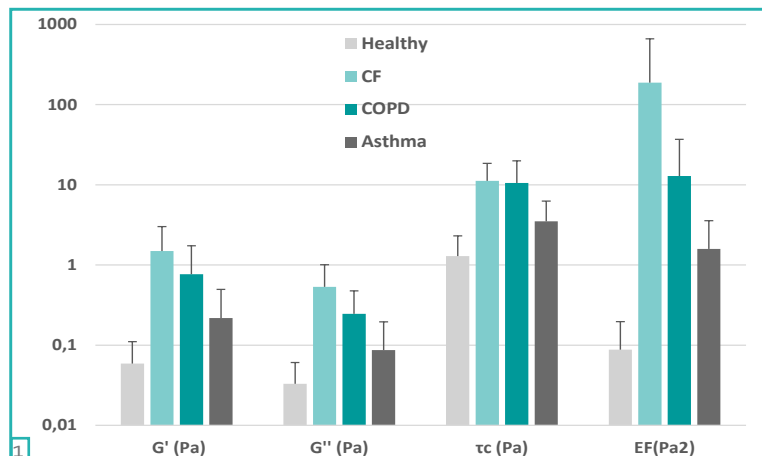
Viscous characteristic of mucus at rest, energy dissipation capacity

Dissipation over storage capacity, molecular network morphology

Stretchability of the mucus before flow

Gel force, firmness of the mucus before flow

Maximum storable elastic energy



Our clinical trial showed that using Rheomuco you can, among other things, distinguish between samples from healthy donors and patients (n=40)(1) as well as provide you with an objective measure to assess treatment efficacy (n=10) (2).

## Specifications

- Equipment dedicated to mucus analysis:  $G^*$  modulus > 0.01 Pa
- Range of measurements from mucociliary clearance to cough: 0.1 Hz – 10 Hz
- Experiments performed at 37 +/- 0.1 °C
- Small footprint: W: 41 cm / D: 45 cm / H: 60-65cm
- Measurement cell: washable and disposable
- Dedicated software supplied, data exportable to PC
- Power supply: 220 V, 60Hz
- No need for compressed air
- Torque resolution: 10 nN.m

## Reference

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## An innovation signed Rheonova

Rheonova is expert in rheology for industrial applications. Since 2010, Rheonova has served and advised a range of industrial sectors – food and agriculture, chemistry, pharmacy and cosmetics – helping them to measure, understand and improve complex viscoelastic properties of their products or in their processes. With Rheomuco, Rheonova has created an innovation for both rheology and health, by providing accurate easy-to-use equipment for routine mucus analysis.