

Novel mucolytics for the treatment of respiratory diseases

- ▶ Mucus hypersecretion is common in lung diseases and can cause airway obstructions.
- ▶ The mucosal Trefoil Factor (TFF) proteins increase mucus viscoelasticity.
- ▶ TFF levels are elevated in lung diseases and correlate with decreased lung function.
- ▶ We are developing TFF antagonists as novel mucolytics.

The opportunity

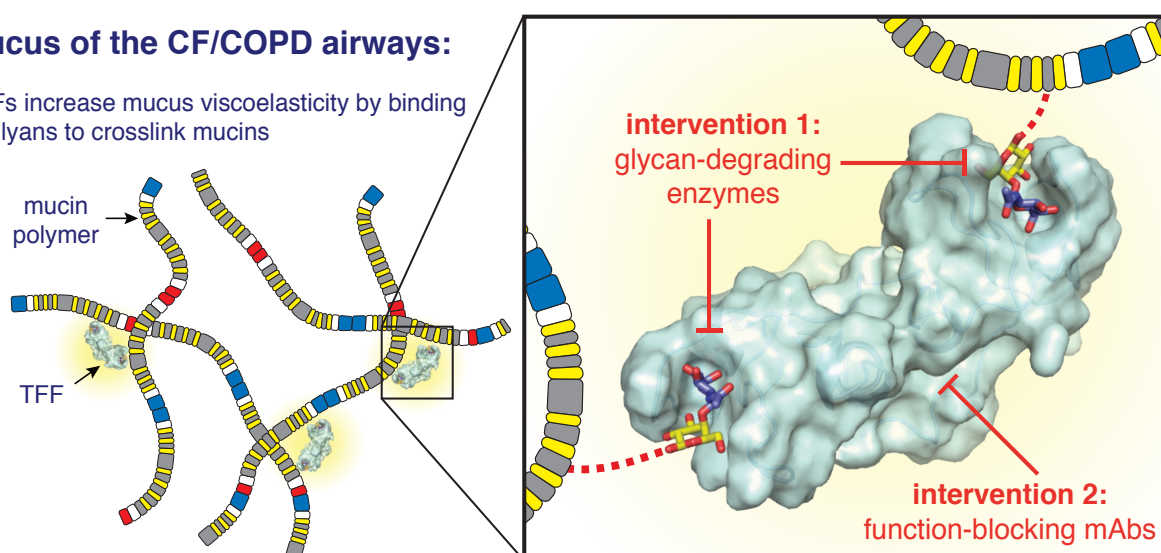
Patients with respiratory diseases, including COPD, asthma, IPF, CF, and bronchiectasis, all hyper-secrete a viscous pulmonary mucus that can accumulate to form obstructions in the lower airways. Existing mucolytic products are routinely prescribed to minimise the formation of these obstructions, though they have limited efficacy. There is an unmet clinical need for more effective mucolytics with novel modes of action.

The technology

We are developing two TFF-antagonist concepts as potential mucolytics. They work by disrupting the ability of TFFs to cross-link the mucin glycoprotein network within mucus, restoring mucus to a healthy consistency without exposing the airway epithelium. Both interventions will be delivered directly to the airways via nebulization/inhalation.

Mucus of the CF/COPD airways:

TFFs increase mucus viscoelasticity by binding O-glycans to crosslink mucins



Opportunities for partnership

We are seeking a partner to co-develop and optimise these TFF antagonists:

We have:

- World-leading expertise in this field.
- Preclinical models of asthma & COPD.
- Promising antagonist candidates.
- Access to patient mucus samples.
- A suite of biomarker tools and assays.
- Functional rheological assays.

We are seeking investment to:

- Support lead development and optimisation.
- Enable preclinical studies using patient samples and preclinical respiratory disease models.

Scientific lead

Associate Professor Ethan Goddard-Borger

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