Cystic Fibrosis (CF) Clinical & Translational Assay Core
Director: Steven M. Rowe, M.D.
Established: 1999

The CF Clinical & Translational Assay Core examines efficacy and toxicity of emerging CF therapeutics using human primary nasal airway epithelial cells and bronchial airway epithelial cells (from bronchoscopy or other surgical remnant tissues).

The Core also provides expertise in measures of CFTR activity including nasal potential difference measurement, an important endpoint in cystic fibrosis clinical trials, and a means to understanding pathogenesis of CF and other metabolic diseases. These clinical assays help bridge the gap between preclinical animal studies and clinical trials, and contribute to therapeutic development in the CF Research Center. Funding is through NIH.

Core capabilities:
- Human nasal potential difference assay and other assays of CFTR activity
- 1-micron resolution Optical Coherence Tomography imaging (μOCT)
- Provision of primary airway epithelial cells
- CF bacterial isolates

Cystic Fibrosis (CF) Animal Models Core
Director: David M. Bedwell, Ph.D.
Established: 1997

The mission of the Animal Models Core is to generate and provide murine and other models for the study of cystic fibrosis. Mouse line generation by both oocyte micro-injection and embryonic stem cell gene targeting technologies are assisted by the Core. The Animal Models Core also establishes breeding colonies of CF mice, and genotypes and provides these to UAB Investigators. Funding is through NIH.

Core capabilities:
- CF Mouse and Other Animal Models:
  - Cfrtm1UNC, Cfrtm1CAM, CftrG551D, CftrR117H
  - Newly developed CFTR−/− Rat model
  - Murine nasal potential difference
  - Chloride secretion perfusion protocol
  - Sodium absorption protocol
  - Bronchoalvelolar lavage analysis

Other diseases related to CFTR defects commonly studied in UAB CF cores:
- COPD (chronic obstructive pulmonary disease)
- ABPA (allergic bronchopulmonary aspergillosis)
- IB (idiopathic bronchiectasis)
- CRS (chronic rhinosinusitis)
- Primary Ciliary Dyskinesia
- Asthma
- Chronic Pancreatitis
- Cholera
- Other enterototoxic diarrheal diseases
- CBA/V (congenital absence of the vas deferens, male infertility)
- PKD (polycystic kidney disease)