HBECs are seeded into ECM gels and SMGs cells, basal cells, and motile cilia. Differentiation of human airway epithelial cells, with the key STEMCELL Technologies

Long-term expansion medium for primary human airway epithelium

- Dendritic cells
- Pericytes:
- Smooth muscle cells:
- Mucous:
- FoxJ1, Club cells:
- Function as multipotent stem cells
- TP63, KRT5, NGFR
- Tuft (brush) cells:
- FOXI1, CFTR high
- Act as sensory cells
- PDPN, AGER
- MUC5AC, FOXA3, SPDEF
- Basal cell
- Self-renewal
- Myoepithelial
- Epithelial abnormalities include:
- Inflammation of mucosa in large airways
- NE cell hyperplasia, inflammation
- Constriction of small airways and reduced air flow caused by hypersensitive smooth muscle
- Reduced airway surface fluid and thickened mucus inhibits mucociliary clearance and mucus inhibit mucociliary clearance and mucus
- Increased mucus production, cough
- Risk factors: smoking, mutations (loss of function of CFTR)
- Bronchial asthma, drug sensitivity
- Risk factors: mutations (SIMPLE1, ALK4), drug sensitivity (benzodiazepines, H1-blockers)
- Lung cancer
- Major types of lung cancers include:
- SCLC, small-cell lung carcinoma; SCC, squamous cell carcinoma; SCLC, small-cell lung carcinoma; NE, neuroendocrine; SCC, squamous cell carcinoma
- Risk factors: smoking, mutations (TP53), exposure, family history
- Pulmonary arterial hypertension
- Risk factors: advanced age, heart failure, connective tissue disorders, exposure to blood circulation
- Emphysema:
- Risk factors: dietary exposures, infection, gastroesophageal reflux disease
- Asbestos:
- Risk factors: asbestos exposure, mesothelioma
- Mesothelioma:
- Risk factors: asbestos exposure, exposure to blood circulation
- Renal cell carcinoma:
- Risk factors: exposure, family history