

# CRO services for Idiopathic pulmonary fibrosis

**Idiopathic pulmonary fibrosis (IPF)** is a chronic interstitial pneumonia of unknown causes. IPF is characterized by alveolar injury and interstitial inflammation/fibrosis followed by excessive deposition of extracellular matrix and destruction of lung architecture, leading to progressive respiratory failure/dysfunction. Despite unmet medical need, the current pharmacological interventions for IPF are largely limited and the mortality rate is still high: up to 70% 5 years after diagnosis.

**Bleomycin (BLM)-induced pulmonary fibrosis** is the most established disease model for IPF and widely used to investigate the efficacy and mechanism of therapeutic candidates.

**SMC**, a Tokyo-based biotech company also known as the leading non-clinical CRO for nonalcoholic steatohepatitis (NASH), has re-validated murine BLM-induced pulmonary fibrosis as a model translating non-clinical program into clinical practice. Our expertise in fibrosis is now experienced **in IPF R&D**.

## BLM-induced pulmonary fibrosis model

### Animal:

- Female C57BL/6J (6- to 8-week-old)

### BLM-administration:

- Intra/Endotracheal instillation

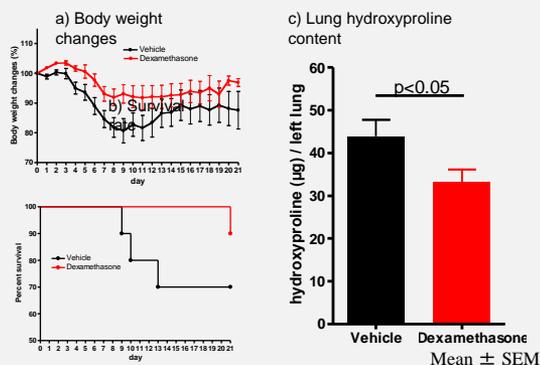
### Major endpoints:

- Histological score (Ashcroft score)
- Fibrosis distribution and density (micro-CT)
- Collagen or hydroxyproline content

### Positive control:

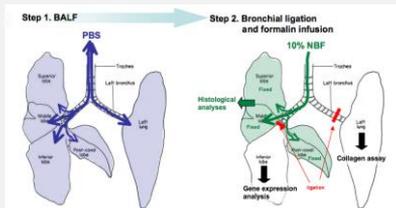
- Prevention study (dexamethasone)
- Therapeutic study (nintedanib)

## Pharmacological study



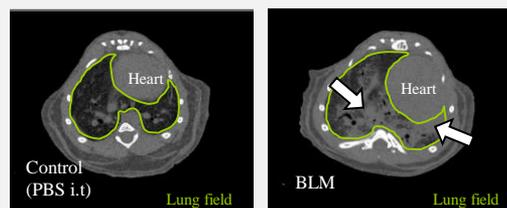
BLM-induced fibrosis was prevented by the treatment with dexamethasone. BLM model mice were orally administered dexamethasone from day 0 for 21 days

## Sampling technique



After BALF collection, left and inferior lobe bronchus are ligated to avoid leakage of the instilled fixative. Then, three fixed lobes (for histological analyses) and two unfixed lobes (for gene expression analysis and collagen assay) are harvested from each mouse.

## In-life monitoring (Micro-CT)



Micro-CT images show fibrotic lesions in the lung of BLM mice (Day 21)



For more information, please contact us below.

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