

## **LTRC Concept Sheet # 05-03-0002**

### **Fibroblast Phenotypes/Matrix in Pulmonary Fibrosis**

**Abstract:** The central hypothesis to be tested in this proposal is that the cellular/biochemical phenotypes of fibroblasts/myofibroblasts in different IIPs are predictive of the “clinical” phenotype of disease manifested by histopathological subtypes of IIP (e.g. NSIP vs. UIP). The “cellular/biochemical” phenotype of fibroblasts/myofibroblasts and surrounding ECM will be assessed by multiple and complementary approaches that utilize tissue/RNA/protein provided through the LTRC: (1) RNA from whole lung tissue and from FF by laser-capture microdissection (LCM) followed by gene expression profiling with pathway-specific gene superarray analyses; (2) Protein extraction/analyses of whole lung homogenates of freshly frozen isolated tissue samples; and (3) Immunohistochemical (IHC) analyses of frozen/fixed tissue sections. The “clinical/disease” phenotype of IIPs will be assessed by composite evaluation of clinical and HRCT data using ATS/ERS definitions.