The MRL-*lpr/lpr* Mouse model of Systemic Lupus Erythematosus

Systemic Lupus Erythematosus (SLE) is an autoimmune inflammatory disease that affects mostly middle-aged women. Characteristics of SLE include skin eruptions, joint pain, recurrent pleurisy, and kidney disease. MRL/MpJ-*Fas*^{lpr}/J, the most commonly studied mouse model of the disease, develops an autoimmune disease that reflects pathologies of human SLE, including lymph node enlargement, increased IgG levels, antinuclear antibody production, proteinuria, and kidney failure caused by inflammation of the glomeruli (Perry, *et al*. 2011). The objective of the study is to characterize the pathology of this mouse model and show its response to a common SLE therapy, cyclophosphamide.

Study Design

- 8 week old female MRL/MpJ-*Fas*^{lpr}/J (Stock number 000485; "MRL-*lpr/lpr*") mice
- Disease onset assessed by testing for proteinuria (defined as a test strip score of ≥ 2)
- Body weights measured weekly; organ weights collected at study terminus
- Blood collections throughout study; Blood urea nitrogen (BUN) levels measured
- Survival assessed by the righting reflex
- Prophylactic dosing initiates after a 1 to 2 week acclimation (prior to onset of proteinuria)
- Therapeutic dosing initiates as mice become proteinuric

Experimental Timelines