Lupus nephritis in MRL/lpr mice

AN *IN VIVO* MODEL TO EVALUATE DRUG CANDIDATES IN LUPUS NEPHRITIS

Model

Lupus nephritis is one of the most serious complications of Systemic Lupus Erythematosus (SLE), an autoimmune disease that results in chronic inflammation and damages to several organs. SLE mainly affects women (90% of cases) and causes, among other symptoms, skin rashes and swollen joints. MRL/lpr mice are a spontaneous genetic model of SLE in which the Fas lpr mutation promotes auto-reactive lymphocyte survival in a strain background (MRL/MpJ) predisposed to autoimmunity.

Species

MRL/MpJ-Fas lpr/J (MRL-lpr) mice (Lupus) and MRL/MpJ mice (Control)

Interest

This model spontaneously develops the hallmark serological markers and peripheral pathology characteristics of human lupus. It is suitable for testing the efficacy of drug candidates in lupus nephritis.

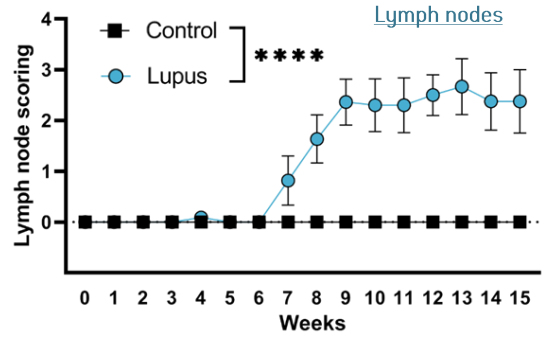
Model Description

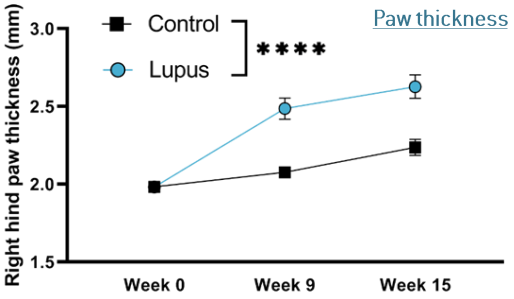
- Standard protocol duration: from 6 to 15 weeks
- Follow-up of lupus features with periodic blood and urine sampling
- Pathophysiological features: inflammation (lymphadenopathy, arthritis, immune complex glomerulonephritis) and renal dysfunction (proteinuria, decrease of Glomerular Filtration Rate, glomerulosclerosis)

Evaluated Parameters

- Body and kidney weights
- Follow-up of lupus features (skin lesions, joint inflammation, lymph node swelling)
- Renal function:
  - Quantification of proteinuria
  - Biochemical dosage of serum and urinary markers
  - Estimated and transdermal Glomerular Filtration Rate
- Other parameters upon request (Histology, IHC…)

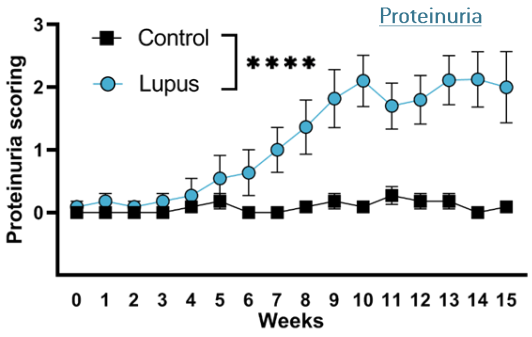
Inflammation in MRL/lpr mice

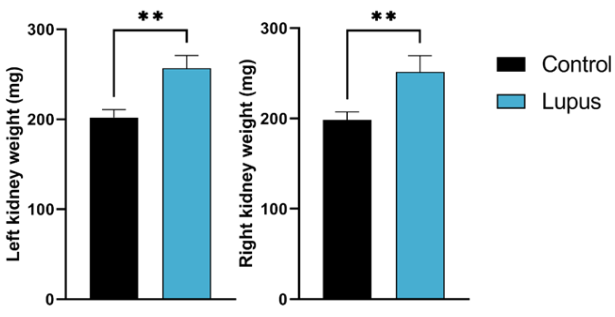




**** P<0.0001 (n=8-11/group)

Renal dysfunction in MRL/lpr mice





** P<0.01, **** P<0.0001 (n=8-11/group)