



Preclinical evaluation of Novel drug candidates against SLE in NZB/W F1 mouse models

Systemic Lupus Erythematosus (SLE) is an autoimmune disease and is one of the most common forms of Lupus. The symptoms of SLE includes skin rashes, pain or swelling in the joints, low fevers, and extreme fatigue. The intensity of the symptoms may vary from person to person. Pathologies of human SLE include lymph node enlargement, proteinuria, and kidney failure.

Aragen Life Sciences offers preclinical efficacy services in evaluating novel anti-SLE drug candidates in NZB/W F1 mouse models. This SLE mouse model is well established to study the pathophysiology of SLE. NZB/WF1 is a female crossbred (NZB x NZW) F1 mouse that spontaneously develops SLE, however the severity of the disease may differ between models. In this article, we describe the efficacy of Cyclophosphamide (common standard treatment for SLE) using NZB/W F1 mouse model.

Study Design:

NZBxNZW F1 female mice 12 weeks old were selected. The mice were randomized into groups based on their urine proteinuria scores at around 20 weeks. Cyclophosphamide used as positive control while PBS served as negative control. This study lasted for 9 months.

Observations:

The proteinuria scores were calculated in different treatment groups on weekly basis. Figure 1 shows the changes in the mean proteinuria score over time in different treatment groups. Figure 2 shows the percentage of animals of different groups with proteinuria scores at week 35.

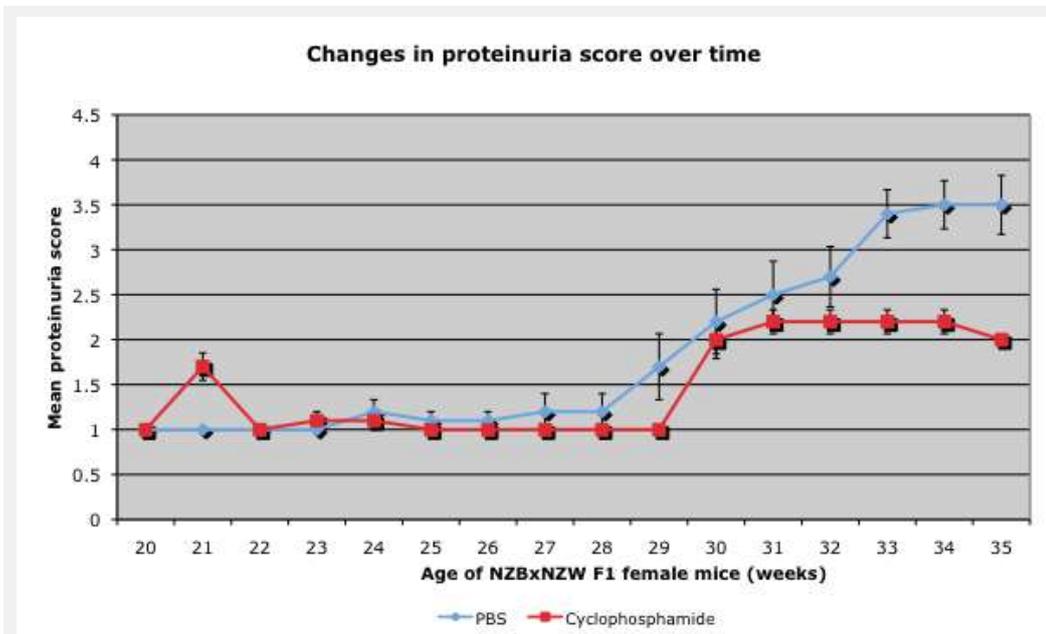


Figure 1. Changes in proteinuria score in 35 weeks

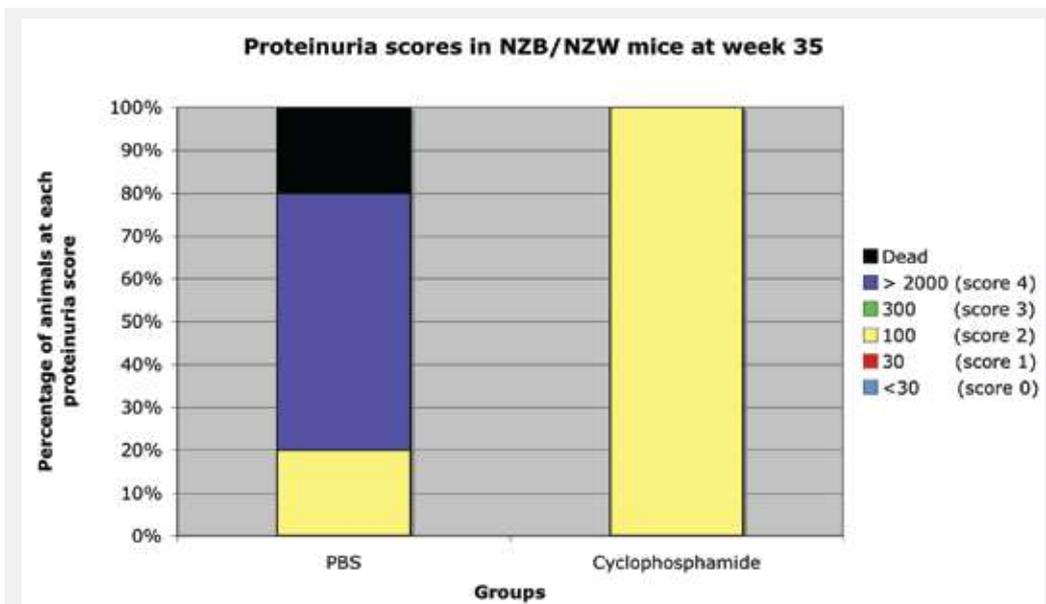


Figure 2: percentage of animals with proteinuria scores of different treatment groups at week 35.

Conclusions:

Cyclophosphamide treated animals showed no SLE disease progression during drug administration period, while PBS-treated group showed steady increase in SLE disease marked with increased proteinuria levels. At the time of study completion in 35 weeks, mean proteinuria scores of surviving animals in PBS-treated group were 1.75-fold increased as compared to Cyclophosphamide treated animals. We observed 100% survival of mice in Cyclophosphamide-treated group.

Let's begin the
Conversation

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