BIODURO

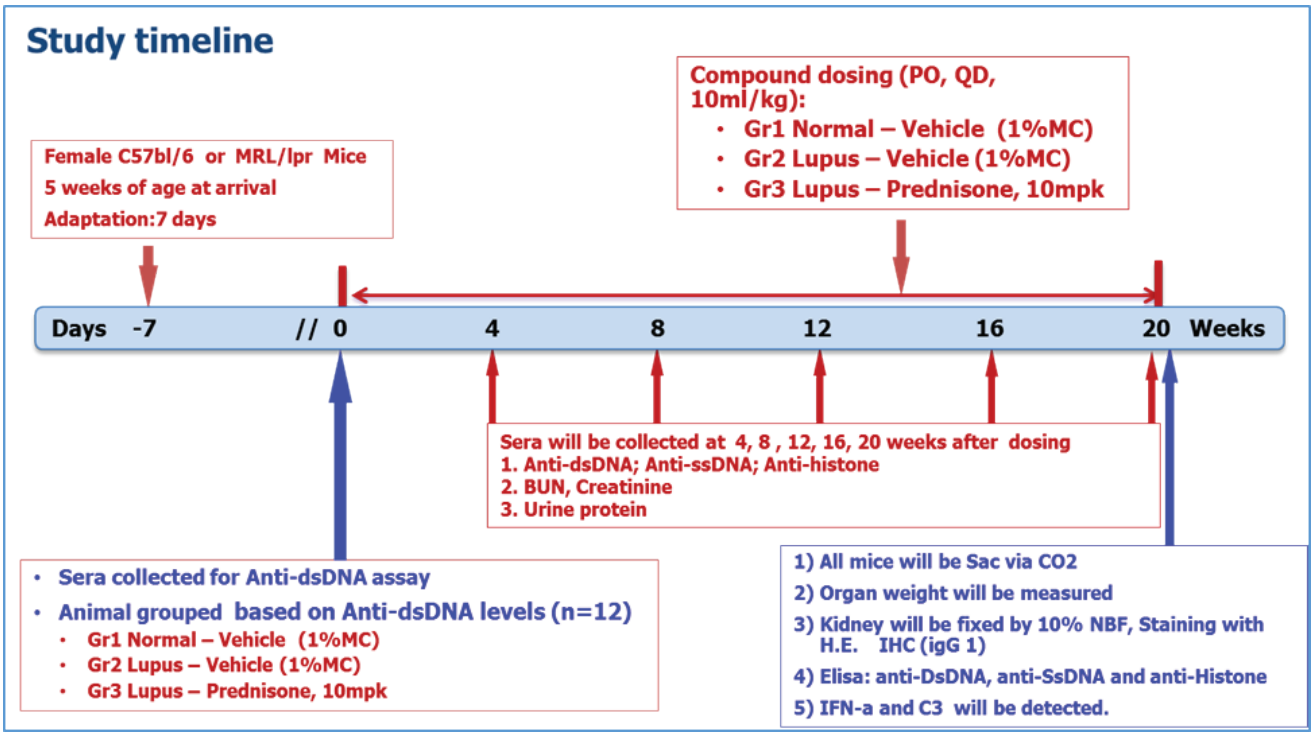
MRL/lpr Lupus Mice Model

Systemic lupus erythematosus (SLE) is an autoimmune disease that is typified by multiple abnormalities of the immune system, which result in widespread pathology of multiple organs including skin, kidney, heart, lungs, and joints. BioDuro offers several lupus animal models for in vivo efficacy compound validation and target engagement MoA studies, including MRL/lpr mice.

Mice of the MRL/lpr inbred strain are genetically predisposed to a spontaneous autoimmune syndrome that resembles human systemic lupus erythematosus. As in lupus patients, a major cause of morbidity and mortality in both male and female MRL/lpr mice is progressive glomerulonephritis. The pathogenic cascade that culminates in renal damage in humans and mice has been correlated with the renal deposition of auto-antibodies, many of which exhibit specificity for antigens that derive from cell nuclei.

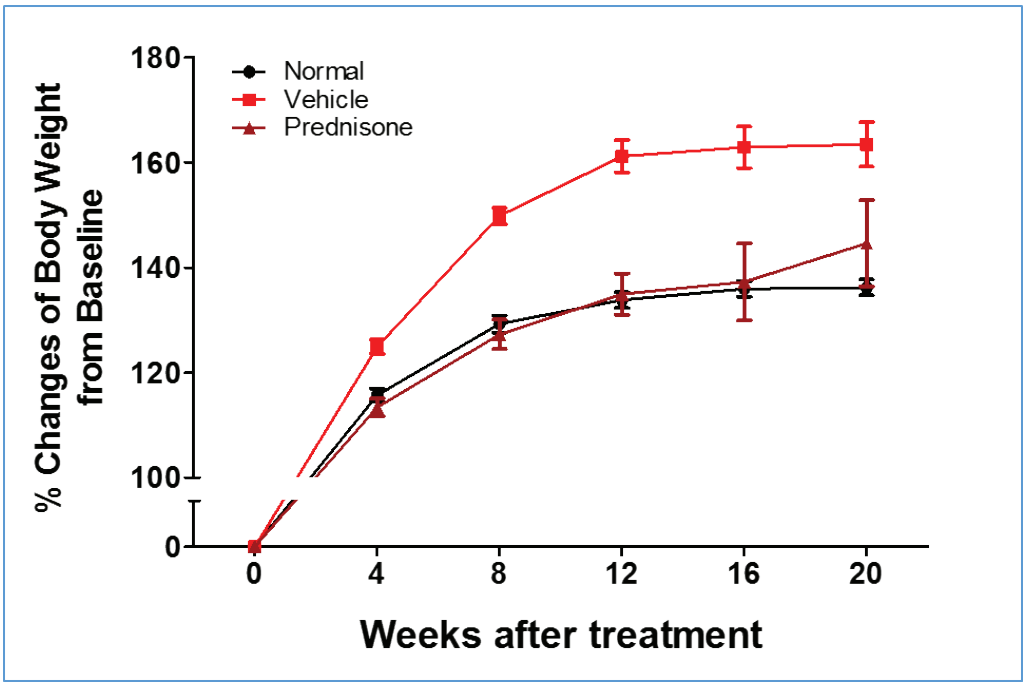
The SLE-like phenotypes present in MRL/lpr Lupus Mice have served to screen numerous potential SLE therapies, which have been widely studied as a model of systemic lupus erythematosus.

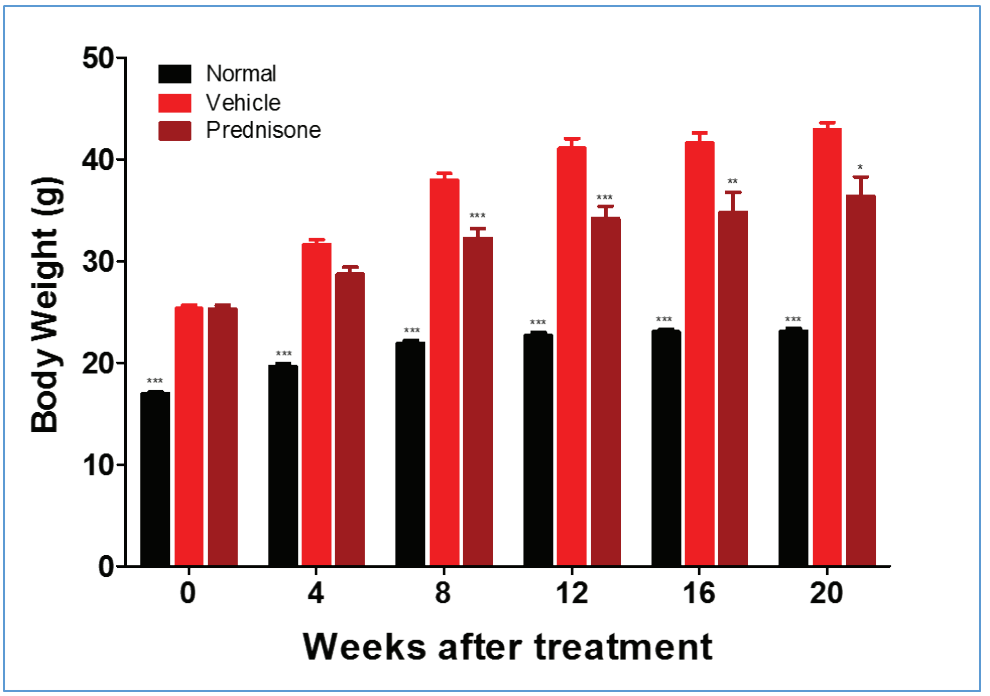
Study Protocol



Results

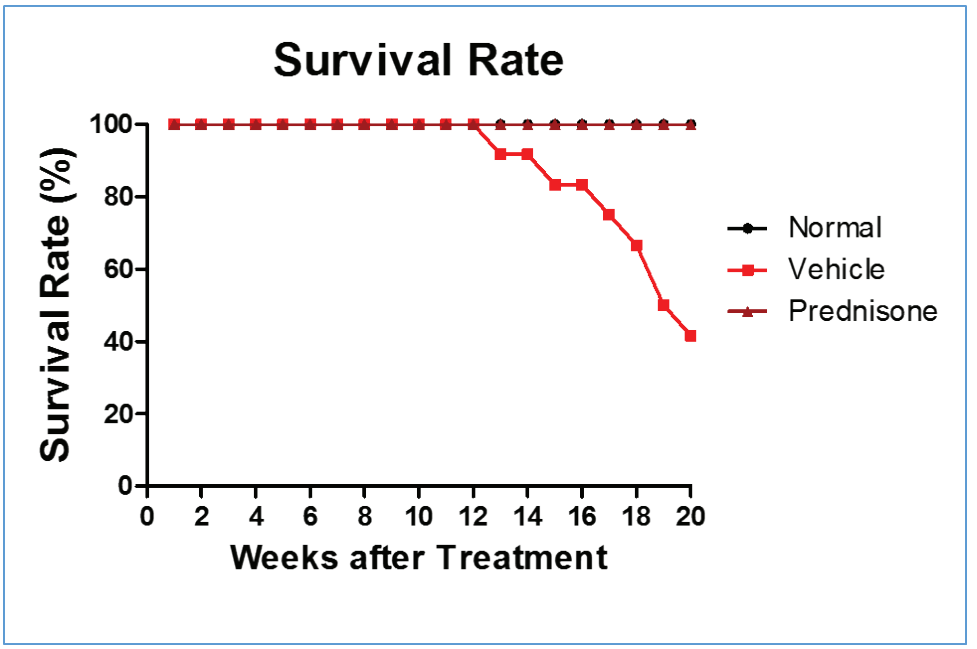
Compound has no side effect on body weight in lupus mice 20 weeks after treatment



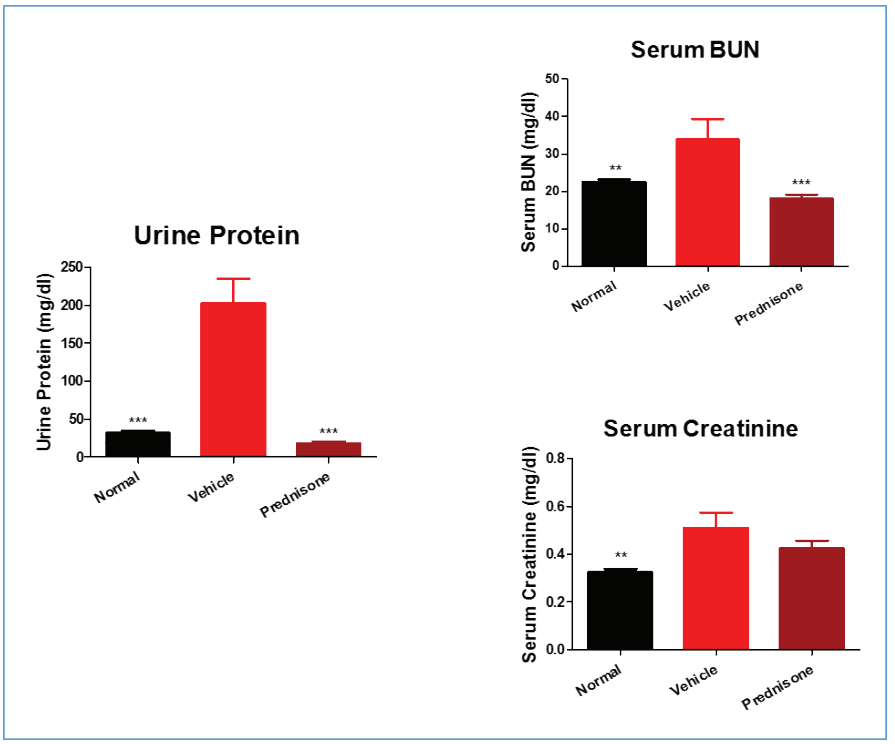


One-way ANOVA, *p<0.05, **p<0.01, ***p<0.001 vs. Vehicle

Compound Improves Survival Rate in MRL/lpr Lupus Mice 20 Weeks After Treatment

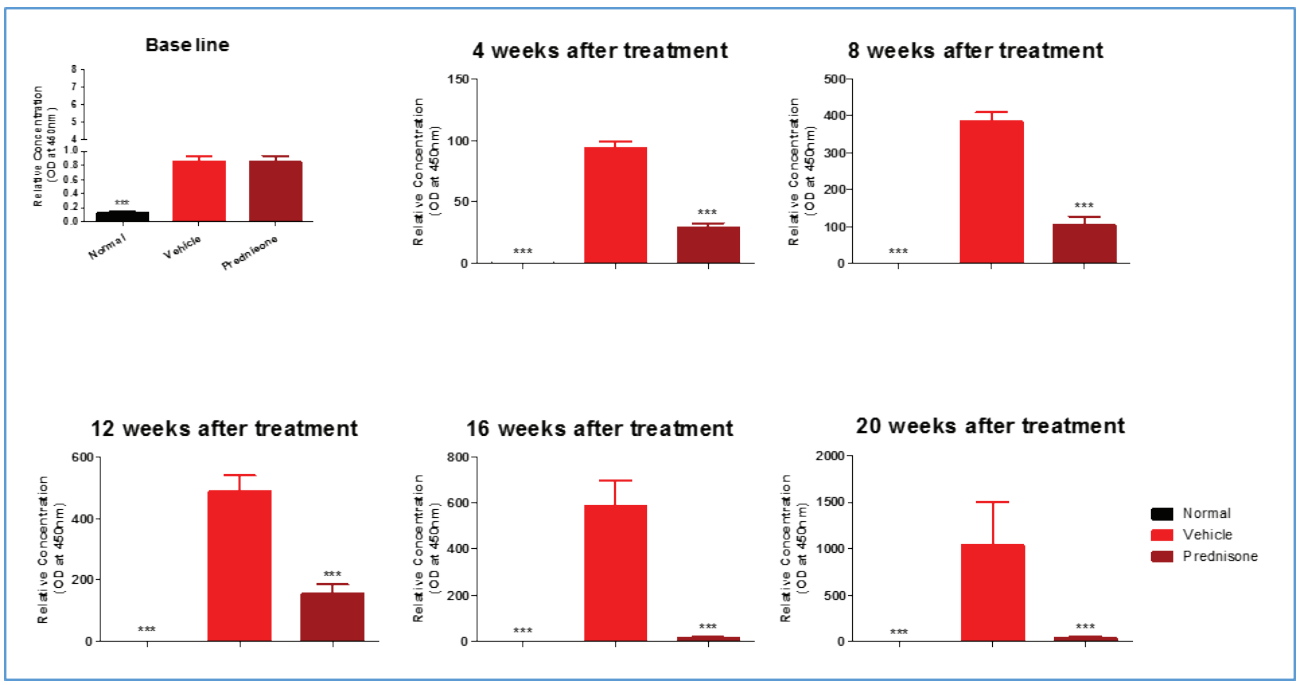


Compound Improves Kidney Function in Lupus Mice 20 Weeks after Treatment



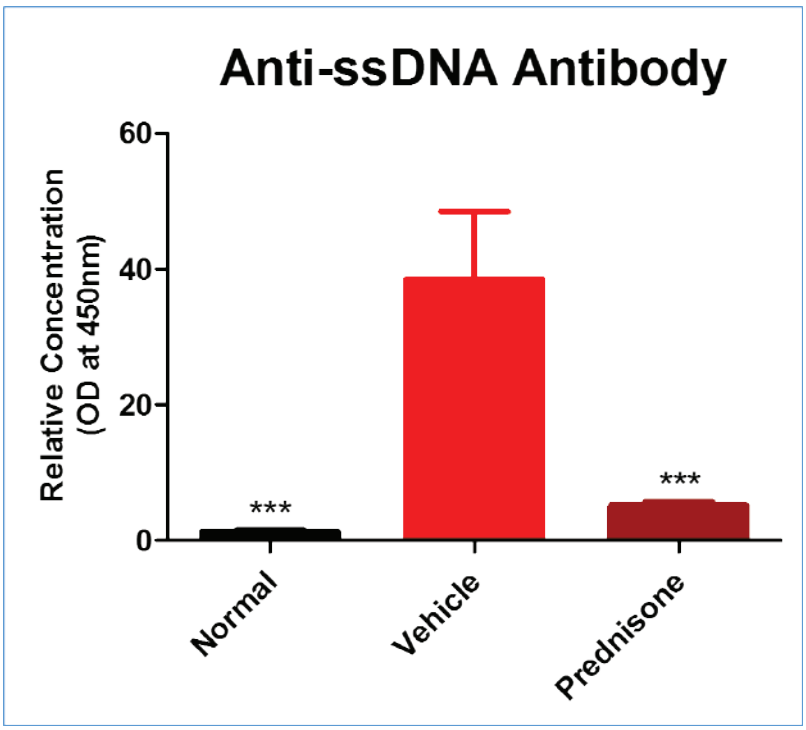
One-way ANOVA, **p<0.01, ***p<0.001 vs. Vehicle

Change of Lupus Specific Autoimmune Antibody Anti-dsDNA Levels in MRL/lpr Mice



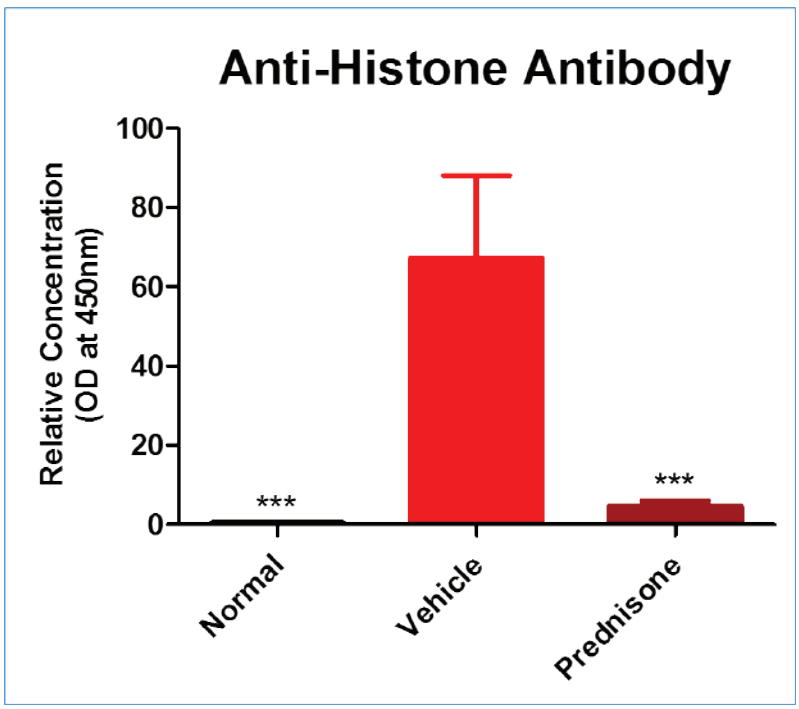
One-way ANOVA, ***p<0.001 vs. Vehicle

Anti-ssDNA Antibody Levels in Lupus Mice 20 Weeks after Treatment



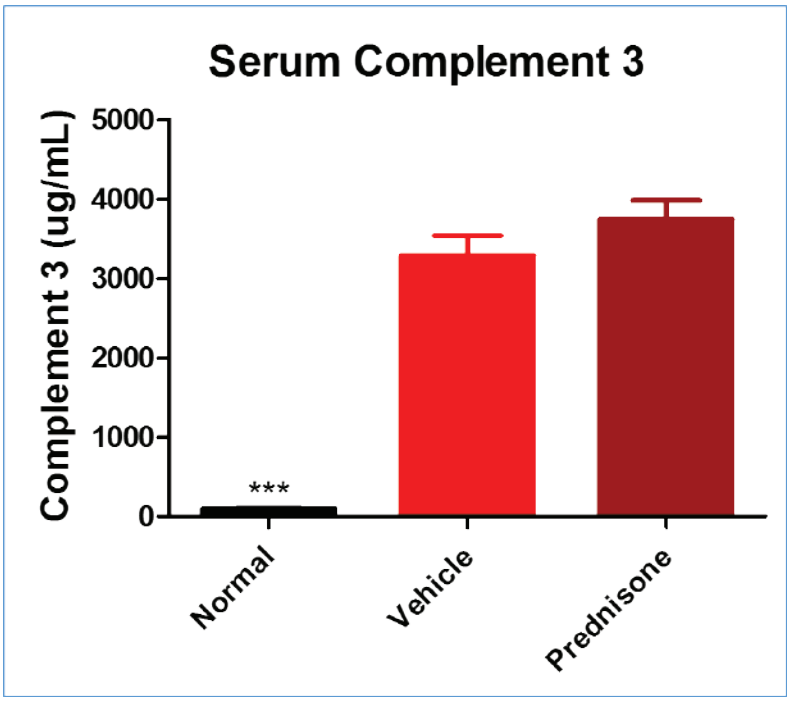
One-way ANOVA, ***p<0.001 vs. Vehicle

Lupus Anti-Histone Antibody Levels in Lupus Mice 20 Weeks after Treatment



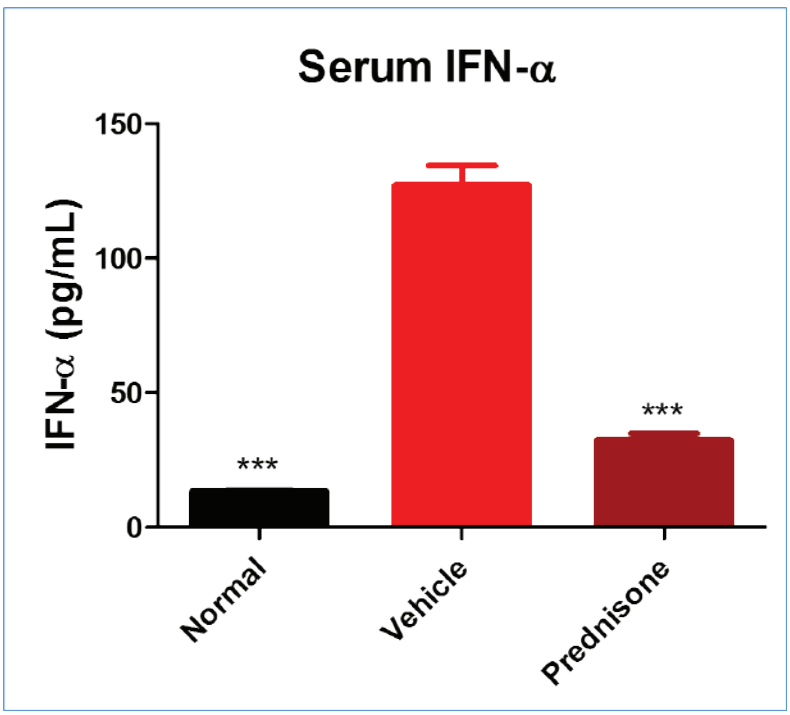
One-way ANOVA, ***p<0.001 vs. Vehicle

Serum Complement 3 Levels in Lupus Mice 20 Weeks after Treatment



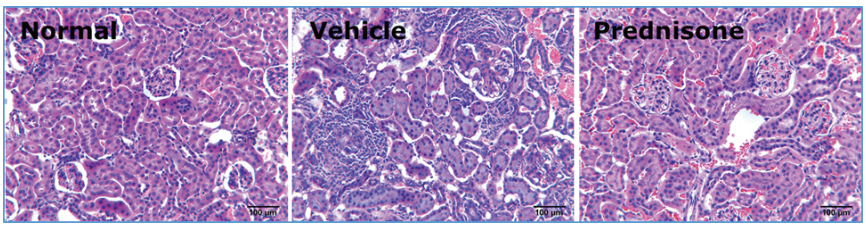
One-way ANOVA, ***p<0.001 vs. Vehicle

Serum IFN-α Levels in Lupus Mice 20 Weeks after Treatment



One-way ANOVA, ***p<0.001 vs. Vehicle

Kidney HE Staining in Lupus Mice 20 Weeks after Treatment



BioDuro Pharmacology

The BioDuro Advantage

BioDuro's pharmacology team has extensive drug discovery and development experience in the pharmaceutical industry enabling us to support fully integrated programs, including study design and data interpretation. Special expertise in metabolic and inflammatory diseases is coupled with a commitment to working with clients to develop customized models for rare diseases.

Our team has successfully collaborated with 9 of the top 20 large pharmaceutical companies and numerous small companies. The success of these collaborations is highlighted by the quality data provided that have informed key project decisions and regulatory filings. Beyond providing analysis, our senior team's expertise allows for the development of a consulting relationship with client partners.

The Pharmacology Team

- **Dr. Yong Qi,** Directory of Pharmacology, has over 16 years of experience in leading and advancing drug discovery projects in metabolic and other disease areas at several pharmaceutical companies, including GlaxoSmithKline
- Group leader-level scientists with strong background and training in metabolic diseases
- A team of 20 well-trained bench scientists focused on in vitro and in vivo metabolic disease drug discovery services. They are skilled in different animal models/assays and excel in problem-solving and trouble-shooting

Services

- Translational research
- Biomarker discovery & development
- Compound efficacy evaluation
- Consultation

Therapeutic Focus

- CNS
- Inflammation and Immunology Disease
- Metabolic Disease