Systemic lupus erythematosus (SLE) is an autoimmune inflammatory disease of unknown etiology, and for which approved therapies are inadequate. Current treatments rely on the use of cytotoxic, anti-proliferative, and anti-metabolite drugs as well as the depletion or inactivation of B cells. The pathogenesis of SLE is attributed to dysfunction of T cells, B cells, dendritic cells, macrophages and neutrophils, secondary to genetic and/or environmental factors.

Pristane induces chronic inflammation when introduced into the peritoneal cavity. The mechanisms involved in pristane-lupus are coming into clearer focus and may be highly relevant to human systemic lupus erythematosus (SLE), an immune disorder increasingly linked to the overproduction of the type 1 interferons (IFN) α and β. The pristane treated mice develop clinical manifestations of lupus, including arthritis, immune complex-mediated glomerulonephritis, and pulmonary capillaritis. Inflammation of the pericardium and pleura also occurs, but it is unclear whether this is autoimmune in origin. SLE is a human syndrome classified using a set of 11 criteria and pristane treated mice meet these criteria.

**Models Available:**

- Pristane Induced Lupus Mice
ii. Lupus specific autoimmune antibody level

![Graph showing Anti-dsDNA Antibody levels](image)

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

iii. Lupus non-specific autoimmune antibodies levels

![Graph showing Anti-ssDNA and Anti-histone Antibody levels](image)

One-way ANOVA, ***p<0.001 vs. Vehicle
iv. Cytokines levels in Lupus mice

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

v. Compound reduced arthritis score in Lupus mice

One-way ANOVA, ***p<0.001 vs. Vehicle
vi. Compound improves kidney function in Lupus mice

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

vii. Compound improves liver function in Lupus mice

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

For more info please call: 858.529.6600 Ext. 517  hello@bioduro.com  www.bioduro.com
Pristane Induced Lupus in Mice

Study Protocol

- Female BALB/c Mice 16-18g at arrival
- Adaptation: 7 days
- Induction of Pristane-induced Lupus mice model:
  - Gr1 Normal
  - Gr2 Vehicle
  - Gr3 Prednisone, 10mpk
  - Gr4 PCI-32765, 30mpk

Compound dosing (PO, QD, 10ml/kg):
- Gr1 Normal
- Gr2 Vehicle (1% MC)
- Gr3 Prednisone, 10mpk
- Gr4 PCI-32765, 30mpk

Days: -7 // 0 // 4 weeks (0) // 0 4 8 12 16 20 24 28 Weeks

- Sera collected for Anti-dsDNA assay
- Animal grouped based on Anti-dsDNA levels (n=10)
  - Gr1 Normal
  - Gr2 Vehicle (1% MC)
  - Gr3 Prednisone, 10mpk
  - Gr4 PCI-32765, 30mpk

Sera will be collected at 4, 8 and 12 weeks
1. Anti-dsDNA; Anti-ssDNA; Anti-histone
2. BUN, Creatinine
3. Urine protein

1) All mice will be Sac via CO2
2) Elisa: anti-DsDNA, anti-SsDNA and anti-Histone
3) IL-6, TNF-α, IFN-γ will be detected.

Results

i. Changes In Body Weight

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

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