RESEARCH SERVICES

Explora BioLabs’ Metabolic Models

Explora BioLabs is a West Coast (USA)-based contract research organization (CRO) providing preclinical in vivo contract research services to the biotech, pharmaceutical, and academic communities. Explora BioLabs is supported by scientists, for scientists. In-depth knowledge, reliable experimental skills, timely execution and data delivery, supported by overall superior customer service makes us your trusted partner.

Expertise in Preclinical Development

Explora BioLabs’ research team has excellent knowledge and hands-on experience with a variety of in vivo metabolic models for diabetes and metabolic drug development. Our team can facilitate model selection and appropriate study design, in vivo drug screening followed by sophisticated data collection and statistical analyses, performed under stringent IACUC oversight.

Rodent Diabetes/Metabolic Models

Explora BioLabs has proficiency in various metabolic disease animal models utilized to assess new drugs, including but not limited to:

**Genetic Models:** Many genetic changes can cause obesity and diabetic phenotypes. Several commercially available models are commonly used in metabolic disease research:

- Zucker rat model
- *db/db* mouse model
- *NOD* mouse model

**Non-Genetic Models:** Experimental procedures can be used to produce animals with obesity and diabetes phenotypes. The following models, which can be produced by Explora BioLabs, are widely used in metabolic disease research:

- STZ- (streptozotocin) induced diabetic model, for type I diabetes (Figure 1)
- Diet-induced obesity (DIO) model, for type II diabetes

Assay and Endpoints

While many therapeutics have acute effects, others achieve their full effects after chronic treatment. Explora BioLabs can assist with design protocols that yield high-quality, meaningful data from every study. Commonly tested parameters used in metabolic diseases include:

**In Vivo Assays for Metabolic Studies**

- Fasting Blood Glucose (FBG)
- Glucose Tolerance Test (GTT)
- Insulin Tolerance Test (ITT) (Figure 2)
- Clinical Observations
- Body weights
- In-life collection of blood, serum, plasma, urine, or feces for metabolic analysis

**In Vitro Analysis**

- Assessment of disease-related biomarkers using clinical chemistry panels, complete blood counts, and comprehensive diagnostic/liver profiles.
Necropsy with histopathology and immunostaining

**Figure 1**
Explora BioLabs’ STZ-induced diabetes model exhibits a rapid onset and sustained hyperglycemia and allows an optimal window for the testing of anti-diabetic therapeutics and insulin sensitizers.

**Figure 2**
Time-course analysis for blood glucose monitoring after drug administration allows the effect of a potential anti-diabetic drug in real time.

To learn more about Explora BioLabs’ Oncology Services, please contact:

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