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METABOLIC DISORDERS IN RODENTS

Dyslipidemia and Atherosclerosis Mice

- Apo E -/-
- LDLR -/-

Type 1 Diabetes models

• Streptozotocin (STZ) mouse/rat

Mouse Models of Type 2 Diabetes

- ob/ob: lacking leptin
- db/db: lacking the leptin receptor

Rat Models of Type 2 Diabetes

• ZDF: mutation in leptin receptor (fa/fa) spontaneously develops insulin resistance, hyperlipidemia and obesity

Models for Obesity

- Diet-Induced Obesity Mice (DIO)
- Zucker Fatty rats: hyperphagic and hyperinsulinemic without hyperglycemia

Nonalcoholic Steatohepatitis (NASH) Models

STZ induced NASH



END POINTS FOR METABOLIC DISORDERS IN RODENTS

In Life Measurements

- Body weights
- Blood glucose measurements
- Insulin levels
- C-peptide
- GTT (OGTT and ipGTT)
- ITT
- Hemoglobin A1c (HbA1c)
- Metabolic cages - Urine and feces collection
- Food and water consumption
- Blood pressure via tail cuff using CODA[™]

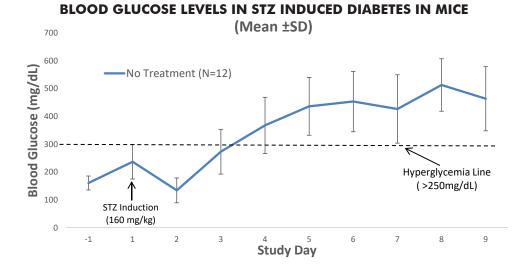
Cytokine levels by ELISA

Clinical Pathology

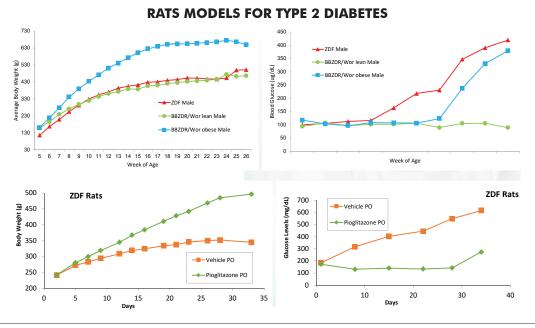
- HDL
- LDL
- Total cholesterol
- Total triglyceride
- Liver enzymes

Tissue Analysis

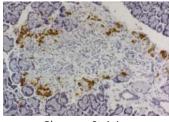
- Immunohistochemistry (IHC)
- Histopathology



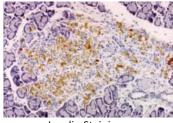
THE EFFECTS OF POSITIVE CONTROLS IN MOUSE MODELS FOR TYPE 2 DIABETES db/db mice **DIO** mice 60 -Low Fat Diet 49 High Fat Diet (grams) 55 47 (gram 45 50 Weight 43 Body weight 45 41 40 Body 39 Vehicle 35 -Liraglutide 37 30 35 76 83 87 87 90 97 97 7 10 13 14 5 Study Day Study Day 350 800 level -Low Fat Diet AM Blood Glucose Levels (mg/dL) 300 -High Fat Diet 700 Blood Glucose I High Fat Diet with Semaglutide 250 600 500 200 (mg/dl) 400 150 on Day 85: L 300 100 200 Vehicle 100 -Liraglutide 50 0 0 1 2 3 4 5 6 7 8 9 10 11 12 13 Time 0 60min 120min 15 min 30 min 90min Study Days Time Point



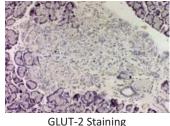
IMMUNOHISTOCHEMISTRY OF THE PANCREAS IN TYPE 2 DIABETES RATS



Glucagon Staining







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IT'S PERSONAL. Driven to expedite your journey.

"Obesity and Type 2 diabetes are a rising epidemic in the Unites States effecting millions of people. Biomere has established itself as a leader in metabolic disease research, testing novel therapeutics in gold standard diabetic/obesity rat and mouse models, customized to meet your program needs. We continue to push the limits to advance metabolic research!"

- Amy D., Client Services and Alliance Management Lead