Physiogenex
THE METABOLIC DISEASES EXPERTS

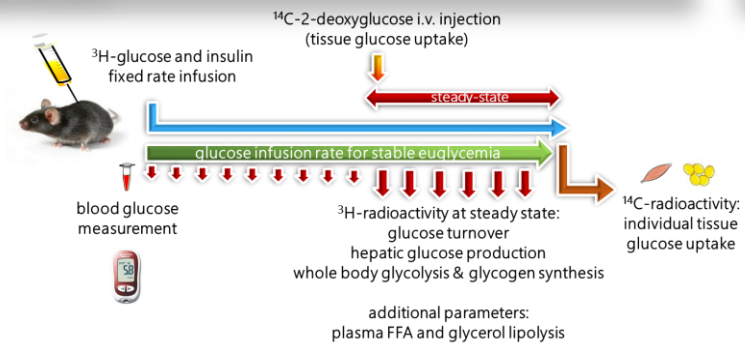
hyperinsulinemic euglycemic clamp in awake/free moving mice or rats

✓ The gold-standard and unique method to precisely evaluate the efficacy of your drug on insulin sensitivity and whole-body glucose homeostasis

Key benefits from our 15-year experience in running radioactive hyperinsulinemic euglycemic clamps in awake/free moving rodents

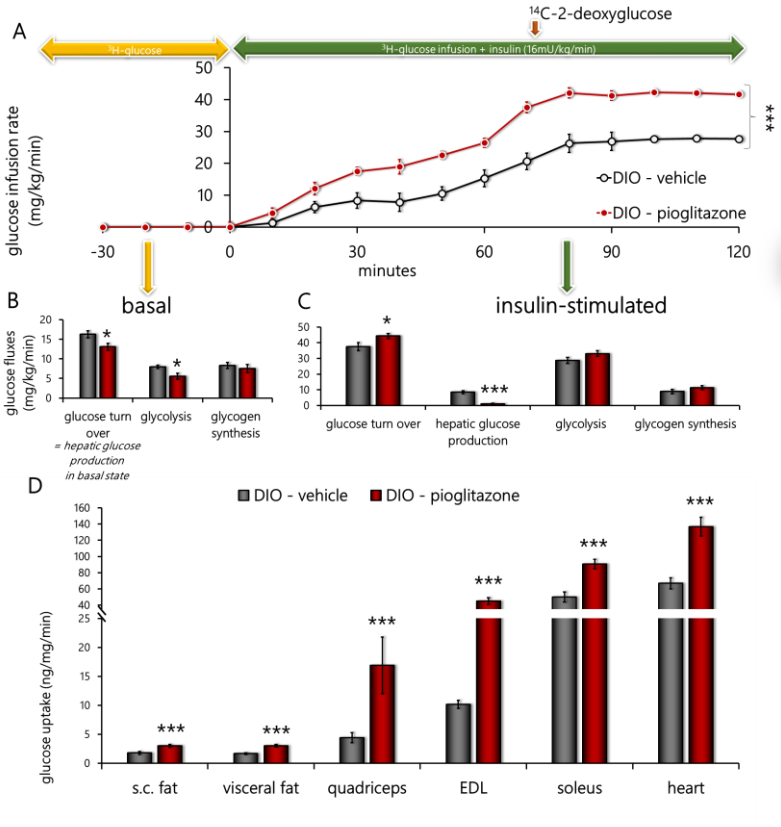
- ✓ ***Rapidly collect essential and robust data :*** *isotopic glucose enrichment procedure is a unique solution giving access to hepatic glucose production, glycolysis and glycogen synthesis in the same animal*
- ✓ ***Specific mechanisms targeted by your compound:*** *assess glucose fluxes in basal conditions without insulin, or both hepatic and peripheral insulin resistance during a 2-step hyperinsulinemic euglycemic clamp - combine with individual glucose tissue uptake*

METHODS



BASAL + HYPERINSULINEMIC EUGLYCEMIC CLAMP

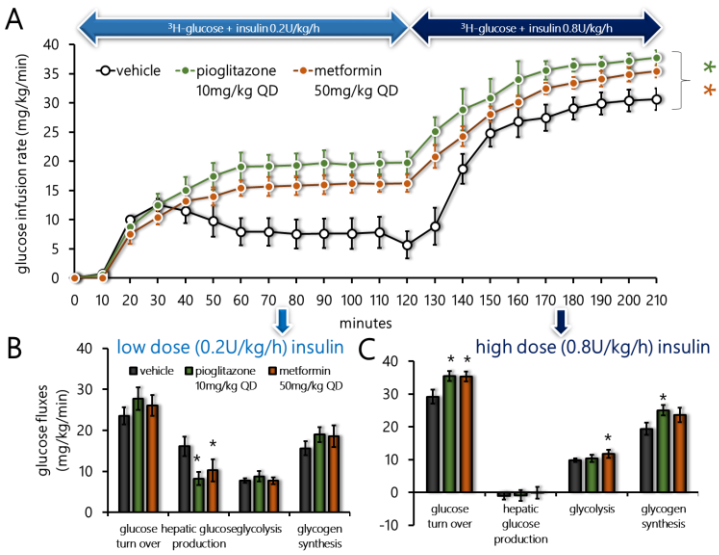
INSULIN SENSITIZER PIOGLITAZONE REDUCES HEPATIC GLUCOSE PRODUCTION IN FASTING AND UNDER INSULIN-STIMULATED STATES, AND IMPROVES PERIPHERAL INSULIN RESISTANCE AT ADIPOSE AND MUSCLE LEVELS IN DIO MICE



(A) Glucose infusion rate and glucose fluxes in (B) basal state and in (C) insulin-stimulated state, (D) individual tissue glucose uptake in 60% high fat diet-induced obese mice treated with vehicle or pioglitazone 30mg/kg QD for 4 weeks.
*p<0.05, **p<0.01 and ***p<0.01 vs. vehicle

2-STEP HYPERINSULINEMIC EUGLYCEMIC CLAMP

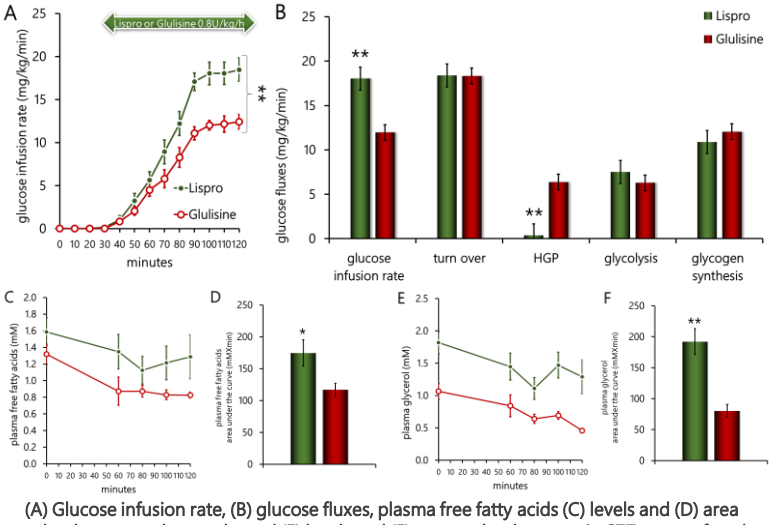
METFORMIN AND PIOGLITAZONE BOTH REDUCE HEPATIC GLUCOSE PRODUCTION AND IMPROVE PERIPHERAL INSULIN SENSITIVITY IN DIET-INDUCED INSULIN RESISTANT RATS



(A) Glucose infusion rate, glucose fluxes during (B) the first step (low dose insulin to assess hepatic + peripheral insulin sensitivity) and (C) the second step (high dose insulin to blunt hepatic glucose production and only assess peripheral insulin sensitivity) of a 2-step hyperinsulinemic euglycemic clamp, in insulin resistant rats treated with vehicle, pioglitazone 10mg/kg or metformin 50mg/kg QD for 2 weeks. *p<0.05 vs. vehicle

INSULIN ANALOGS DIFFERENTIATION

LISPRO BETTER REPRESSES HEPATIC GLUCOSE PRODUCTION, WHILE GLULISINE BETTER BLUNTS LIPOLYSIS IN T1D STZ-RATS



(A) Glucose infusion rate, (B) glucose fluxes, plasma free fatty acids (C) levels and (D) area under the curve, plasma glycerol (E) levels and (F) area under the curve in STZ rats perfused with insulin analogs Lispro or Glulisine during a hyperinsulinemic euglycemic clamp.
*p<0.05 and **p<0.01 Lispro vs. Glulisine

PHYSIOGENEX SAS - Prologue Biotech – 516 Rue Pierre et Marie Curie –31670 Labège Cedex – France Phone: +33 561 287 040 - business@physiogenex.com - www.physiogenex.com