

Whole body glucose turnover

State-of-the-art technique for investigating and quantifying the effect of your compound on whole-body glucose metabolism in a context of type 2 diabetes. Glucose turnover using radiolabeled tracers is invaluable for assessing whole body glucose metabolism *in vivo*.

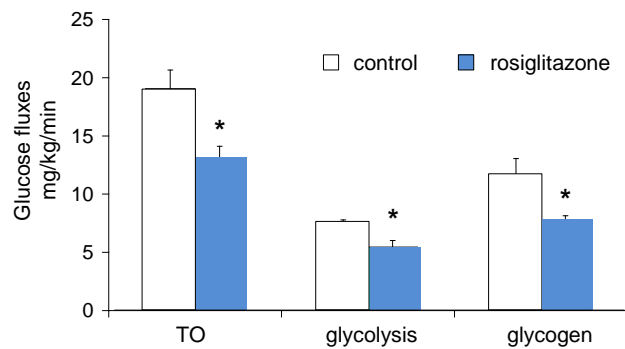
Key benefits :

- ✓ Sensitivity (15%) sufficient to detect a statistically significant impact of your compound on **glucose metabolism**: a lack of significant results in blood glucose assays does not imply your drug compound doesn't improve glucose turnover
- ✓ Essential and robust data for your records: isotopic glucose enrichment provides unique insights into whole-body glucose metabolism (glucose turnover, glycolysis and glycogen synthesis)

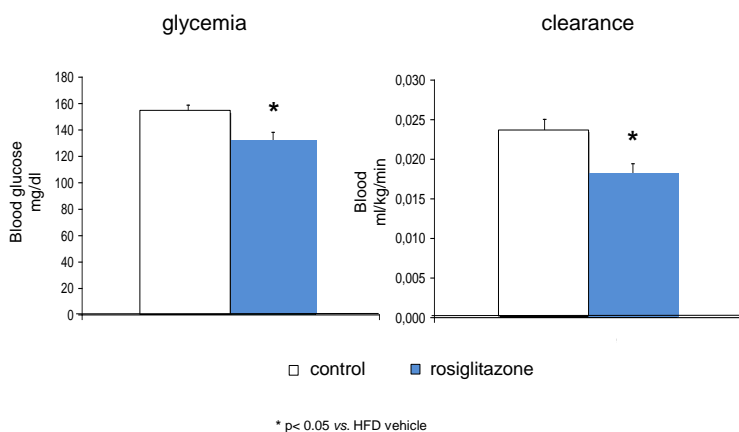
DESCRIPTION AND PARAMETERS EVALUATED

- Species: rat, mouse
- Glucose fluxes
- Glucose turnover (= hepatic glucose production)
- Whole-body glycolysis rate
- Whole-body glycogen synthesis
- Glycemia
- Glucose clearance rate

Effects of rosiglitazone on glucose fluxes



Glucose turnover in awake mice fed a high-fat diet



ADD-ON STUDIES

- Individual tissue glucose uptake assay to identify specific tissues targeted by your compound, and to identify unexpected adverse effects or additional tissue-specific benefits
- Euglycemic hyperinsulinemic clamp + ³H-glucose in the insulin-stimulated state to profile your compound's efficacy on Insulin sensitivity
- FFA turnover in basal conditions to complete your compound's lipid profiling

REFERENCES

- Andreelli F et al, *Endocrinology* 147: 2432-41, 2006
 Burcelin R et al, *Diabetes* 49: 1635-42, 2000
 Burcelin R et al, *Diabetes* 48: 16264-9, 1999