



Insulin resistant hypertensive rat model

A model of insulin resistance associated with hypertension leading to early kidney dysfunction

Key benefits

- ✓ A proprietary diet induced model : take advantage of Physiogenex's unique expertise with this model
- ✓ Assess the efficacy of your compound in a physiological and diet-induced model displaying major features of the onset of diabetic nephropathy in association with insulin resistance, hypertension
- ✓ Physiological model relevant to the main classes of approved anti-diabetic, anti-hypertensive compounds

ANIMAL MODEL

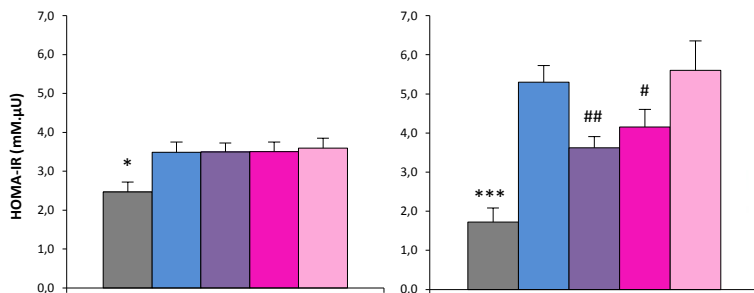
- Background Strain: Dahl/Salt Sensitive rat
- Gender: male
- Diet: High sucrose (HS) / high salt
- Time on diet: salt addition after 4 weeks of sucrose
- Positive reference compounds: GLP-1 analogues (exendin), AMPK activation (metformin)

PATHOPHYSIOLOGICAL FEATURES

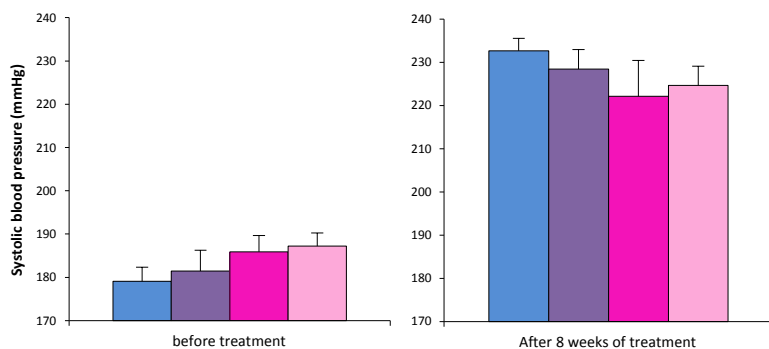
- (after 12 weeks of diet)
- Mild obesity (mainly visceral): ~32g vs ~28g in control chow mice
 - Slight hyperglycemia in fasting state
 - Glucose intolerance
 - Insulin resistance
 - Hypertension
 - Mild kidney dysfunction

PHARMACOLOGICAL RELEVANCE

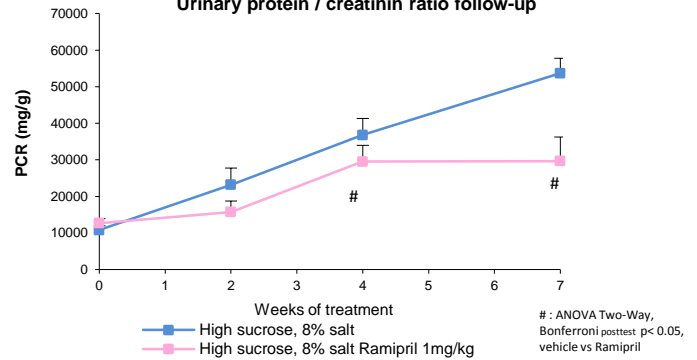
HOMA-IR (after 7 weeks)



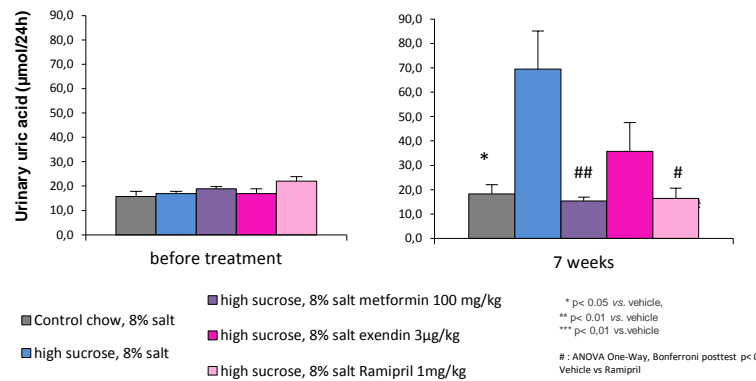
Systolique blood pressure follow-up



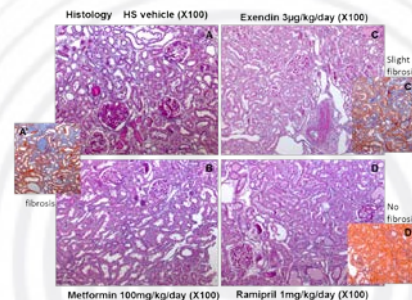
Urinary protein / creatinin ratio follow-up



Urinary uric acid / 24h follow-up



Renal histology



REFERENCES

Prunet-Marcassus B, Jaafar F, Muzotte E, Al Saati T, Tack T, Sulpice I. Antidiabetic drugs exendin-4 and metformin prevent renal damages independently of blood glucose reduction in insulin resistant hypersensitive Dahl rats fed a high salt/sucrose diet. Prediabetes and Metabolic Syndrome Congress, April 6-9, 2011. Madrid, Spain.