L-NAME induced hypertension in rats / mice

Model advantages:
This experimental model easily creates generalized nitric oxide (NO) deficiency that if prolonged, is responsible for a progressive increase in arterial pressure associated cardiovascular remodeling.

Pathophysiological features:

Cardiovascular features:

- progressive increase of mean arterial pressure
- cardiac and vascular remodeling if treatment period is sufficiently prolonged

Erectile function features:

- Dramatic impairment of erectile responses to electrical stimulation of the cavernous nerve after 4 weeks of L-NAME administration (10 or 50 mg/kg/d in drinking water) in anesthetized rats (figure 1).
- Dose dependent decrease erectile responses to electrical stimulation of the cavernous nerve following acute L-NAME intravenous injection (1 or 3 mg/kg) in anesthetized rats (figure 1).

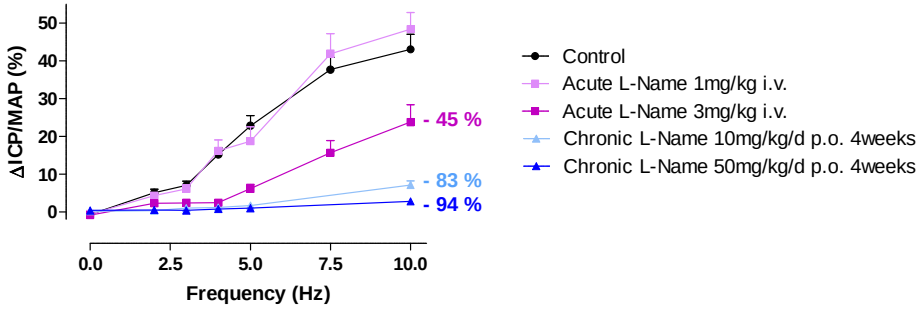

Figure 1: Effects of acute L-NAME (1 or 3 mg/kg i.v.) and chronic L-NAME (10 or 50 mg/kg/d p.o. for 4 weeks) on intracavernosal pressure (ICP) after ES CN in anesthetized rats (Pelvipharm internal data).

Summarized methodology:

- Chronic L-NAME is administered orally in drinking water
- Acute L-NAME is administered intravenously at the time of experiment

Related Pelvipharm bibliography:

Non disclosable information for confidentiality reasons

Links to applicable experimental skills:

- Administration routes / regimen
- Plasma / urine / tissue collection
- In vivo experiments – conscious animals
* Telemetry
* Urine collection - Metabolic cages
* Tail cuff
- In vivo experiments – anesthetized animals
* Erection elicited by pharmacological or electrical neural stimulation
- Organ bath studies (EFS / Pharmacological studies)
* Animal tissues
- Biochemistry (Plasma / Urine / Tissue)
* Spectrophotometric assays
* Protein expression and activity
- Histology
* Histomorphology
* Histomorphometry
* Oxydative fuorescence
- Immunohistology / Confocal microscopy
* Protein expression – immunohistochemistry / immunofluorescence
* Confocal microscopy