Diuresis and renal function (metabolic cages)

Objectives:

Urine harvesting using metabolic cages allows the repeated monitoring of diuresis and renal function in rats / mice. Moreover, the urinary excretion rate of a wide variety of substances can be biochemically determined in 24h-urine samples collected on a refrigerated rack (allowing urine collection from +4° down to -15° C)(figure 1), limiting thus the pos sible degradation of the excreted substance.

Figure 1: Overview of the refrigerated rack collector for 24-h urines collection

Summarized methodology:

After a first stay with no urine collection to reduce the stress of the animal on the day of collection, the animals are placed in metabolic cages for a 24 h period to collect urine at a desired temperature from +4° down to -15° C. A fter recording the total urine volume, 24-h urine samples are centrifuged and supernatant stored for future biochemical determinations.

Endpoints:

- 24-h urine volume
- refrigerated urine sample collection

NB: *Pelvipharm will gladly study the feasibility of collecting urine in other experimental models and using different experimental settings to meet its client's needs.*

Related Pelvipharm bibliography:

Oudot, A. et al. **Physiol Res** (2009) : 58(4):499-509

Behr-Roussel, D. et al. **Eur Urol** (2008) : 53(6) : 1272-1281

Behr-Roussel, D. et al. **Am J Hypertens** (2008) : 21(11) : 1258-1263

Links to applicable therapeutic areas / targeted disorders:

- Sexual pharmacology
* ED (Erectile Dysfunction)
* FSD (Female Sexual Dysfunction)

- Lower urinary tract
* BPH (Benign prostatic Hyperplasia)
* SUI (Stress Urinary Incontinence)
* SCI (Spinal Cord Injury)
* NDO (Neurogenic Detrusor Overactivity)
* OAB (Overactive Bladder)
* IC (Interstitial Cystitis)

- Cardiovascular and metabolism pharmacology
* Hypertension
* Metabolic syndrome
* Atherosclerosis
* Diabetes Mellitus
* Myocardial infarction