



## PS / LPS INDUCED BLADDER INFLAMMATION

### A MODEL FOR PAINFUL BLADDER SYNDROME (INTERSTITIAL CYSTITIS)

#### MODEL

**Cystometry in anesthetized animals after PS / LPS treatment.**

Intravesical instillation of protamine sulfate and lipopolysaccharide in rodents produces bladder inflammation and bladder hyperreflexia mimicking some of the pathological features of human Painful Bladder Syndrome (PBS), also known as interstitial cystitis.

#### SPECIES

Rat, mouse, guinea-pig

#### INTEREST

- This model is suitable for testing compounds for effects on increased frequency and decreased bladder capacity associated with PBS.
- Compounds that show a positive response in this model include NK<sub>1</sub> receptor antagonists and inhibitors of TNF- $\alpha$ , interferon  $\gamma$  and interleukine production.

#### MODEL DESCRIPTION

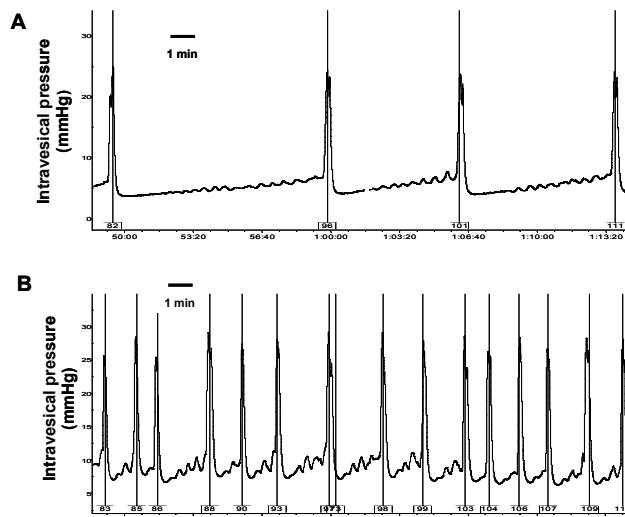
- Intravesical instillation of a protamine sulfate (PS) solution followed by a lipopolysaccharide (LPS) solution.
- Cystometry is performed in anesthetized animals following PS/LPS treatment.
- Test compounds can be administered *via* various routes (i.v., i.p., p.o., i.g. or s.c.) and cystometric parameters evaluated up to two hours post-administration.

#### PARAMETERS EVALUATED

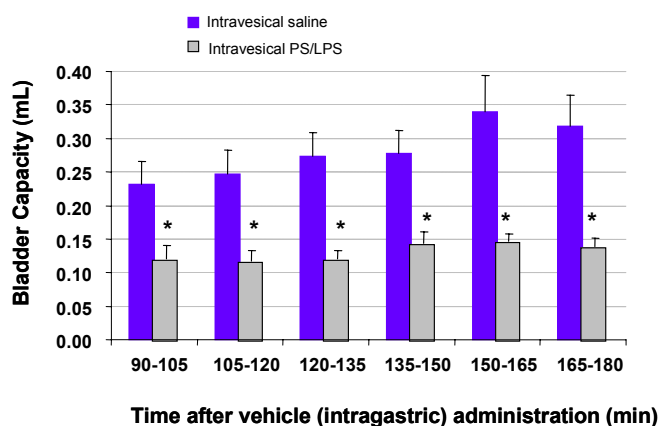
- Bladder capacity
- Intercontraction intervals during cystometry
- Micturition pressure
- Micturition volume
- Basal intravesical pressure
- Threshold pressure for micturition

#### SCIENTIFIC PUBLICATIONS

- Saban MR et al, *Am J Physiol Renal Physiol* **282** : F202-210, 2002
- Lecci A et al, *J Urol* **160**: 206-209, 1998
- Gonzalez RR et al, *J Urol* **173**: 630-34, 2005



Typical cystometric recordings in rats treated with (A) saline and (B) PS/LPS (intravesical) before cystometry.



\* P < 0.05 versus saline (intravesical) by two-way ANOVA

Bladder capacity in PS/LPS treated rats versus saline-treated rats.