- In vitro investigation of vas deferens (VD) function from male normal rats in organ baths.
- Useful to investigate the effect of drugs developed on epididymal VD to evaluate the smooth muscle reactivity
- Evaluation of the ability of drugs at modulating epididymal VD smooth muscle tone, organ bath studies:
    - on adrenergic contractile responses elicited by alpha-adrenergic pharmacological stimulation: phenylephrine/norepinephrine (prostatic VD is much less reactive to adrenergic agents)
    - on contractions induced by electrical field stimulation (EFS) (stimulation of efferent nerve terminals)
    - on KCl contractile responses.
- Evaluation of mRNA by RT-PCR
- Evaluation of protein expression: by immunohistochemistry (IHC) or western-blot (WB) in parallel of organ bath studies.

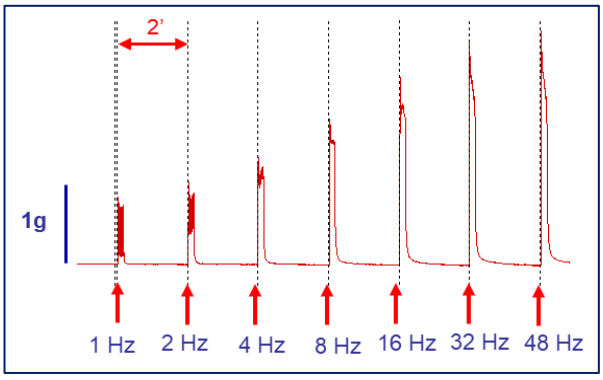

Figure 1: Original tracing showing a frequency-response curve to EFS (300 mA, 10 s, 0.5 ms, 1 to 48 Hz) in rat vas deferens tissue. (Pelvipharm, internal data).

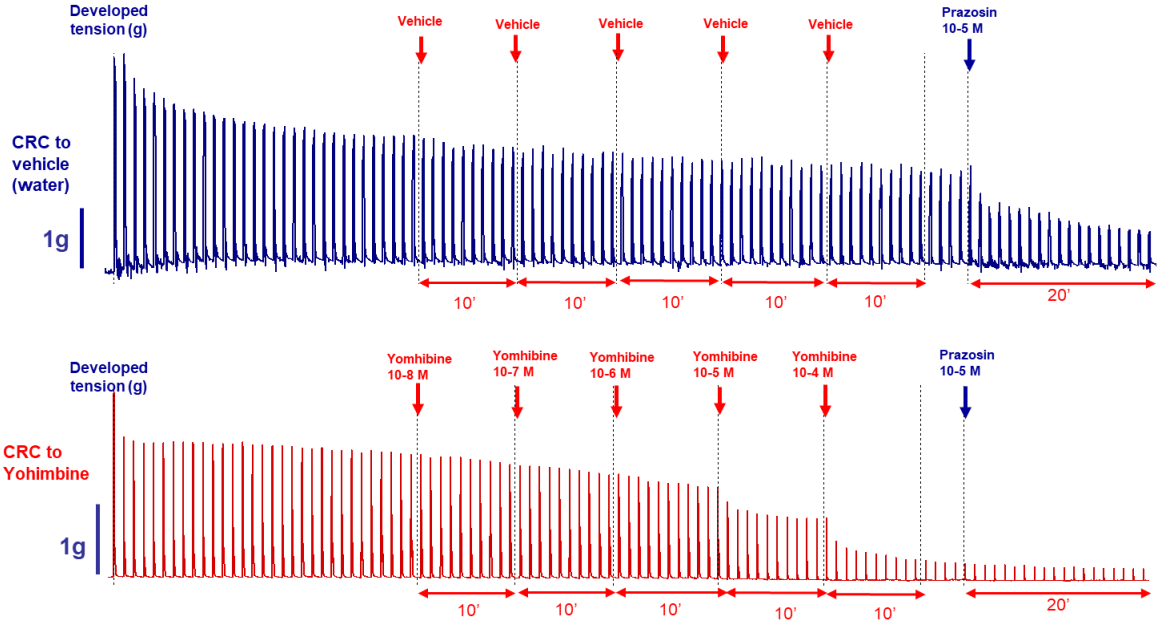

Figure 2: Original tracing showing a continuous EFS stimulation (300 mA, 10 s, 0.5 ms, 10 Hz) and concentration response curve to an antagonist for alpha2-adrenoceptors (yohimbine) 10^{-8} M to 10^{-4} M or its vehicle in rat epididymal vas deferens strips. Maximal relaxation was induced by a reference of alpha-1 blocker (Prazosin, 10^{-5} M). (Pelvipharm, internal data).

Endpoints

- Evaluation of the capacity of a drug to inhibit human or rat vas deferens smooth muscle contractions.
- Determination of potency **(EC50)** and efficiency **(Emax)** of a drug.
- Determination of the affinity **(pA2)** of a drug for a human or rat vas deferens receptor.

NB: Pelvipharm will gladly study the feasibility to fit this experimental model to its client's needs.