

The rat / mouse model of diabetes mellitus induced by streptozotocin injections is one of the most widely used model of type I diabetes and mimics human pathological situation of decreased insulin production (untreated type I diabetes) or decrease tissue responsiveness to insulin.

Pathophysiological features

Metabolic features

- Weight loss
- Hyperglycemia
- Streptozotocin-induced pancreatic beta cells (insulin-producing cells) destruction
- Autonomic neuropathy

Cardiovascular features

- Vascular endothelial dysfunction (aorta) (figure 1)
- Acceleration of atherosclerosis progression in ApoE knockout mice

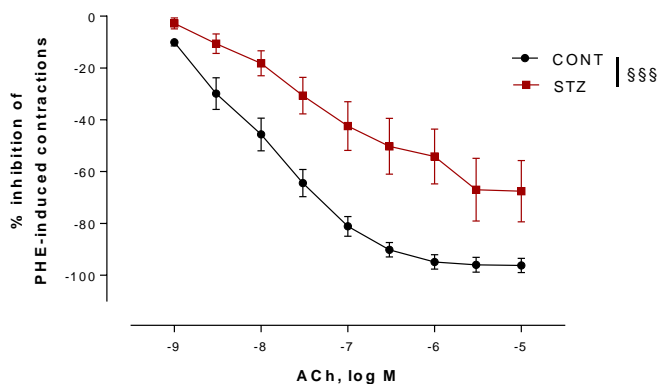


Figure 1: Comparison of endothelium-dependent relaxations in control and streptozotocin-induced diabetic rats obtained from in vitro experiments performed in aortic rings. \$\$\$ $p < 0.001$ two-way ANOVA (Pelvipharm, internal data).

Erectile function features

- Impairment of endothelial and neurogenic relaxations of corpora cavernosa (figure 2)
- Penile autonomic neuropathy

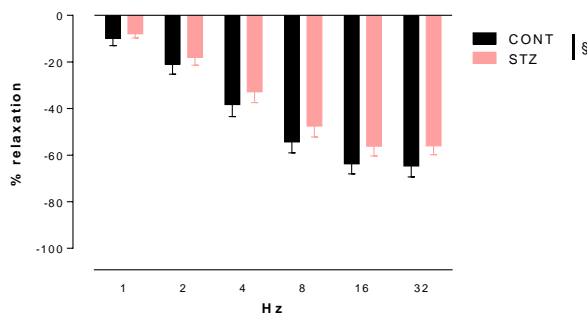
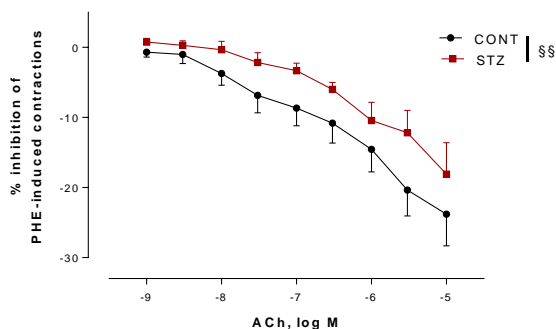


Figure 2: Comparison of endothelium-dependent and EFS-induced relaxations in control and streptozotocin induced diabetic rats obtained from in vitro experiments performed in cavernosal strips. \$ $p < 0.05$, \$\$ $p < 0.01$ two-way ANOVA (Pelvipharm internal data)

Summarized methodology

- In rats or mice, streptozotocin injection(s) induces diabetes which is confirmed by determining blood glucose levels.

Related Pelvipharm bibliography:

Non disclosable information for confidentiality reasons

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