

# Proerectile Pharmacological Effects of *Tribulus terrestris* Extract on the Rabbit Corpus Cavernosum

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## Abstract

**Introduction:** The objective of the present study was to investigate the effect of oral treatment of *Tribulus terrestris* (TT) extract on the isolated corpus cavernosal tissue of New Zealand white (NZW) rabbits and to determine the mechanism by which protodioscin (PTN), a constituent of the TT, exerts its pharmacological effects. **Materials and Methods:** Twenty-four NZW rabbits were randomly assigned to 4 experimental groups of 6 each. Group I served as control. Groups II to IV were treated with the extract at different dose levels, i.e. 2.5 mg/kg, 5 mg/kg and 10 mg/kg body weight, respectively. The TT extract was administered orally, once daily, for a period of 8 weeks. The rabbits were then sacrificed and their penile tissue isolated to evaluate the responses to both contracting and relaxing pharmacological agents and electrical field stimulation (EFS). **Results:** PTN on its own had no effect on the isolated corpus cavernosal strips. The relaxant responses to EFS, acetylcholine and nitroglycerin in noradrenaline precontracted tissues from treated group showed an increase in relaxation of a concentration dependent nature compared to that of the tissues from control group. However, the contractile, anti-erectile response of corpus cavernosal tissue to noradrenaline and histamine showed no significant change between the treatment and the control groups. **Conclusions:** The relaxant responses to acetylcholine, nitroglycerin and EFS by more than 10%, 24% and 10% respectively compared to their control values and the lack of such effect on the contractile response to noradrenaline and histamine indicate that PTN has a proerectile activity. The enhanced relaxant effect observed is probably due to increase in the release of nitric oxide from the endothelium and nitrergic nerve endings, which may account for its claims as an aphrodisiac. However, further study is needed to clarify the precise mechanism of its action.

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**Key words:** Electrical field stimulation, Nitric oxide, Protodioscin, Rabbit corpus cavernosum, *Tribulus terrestris*

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