

EFFECTS OF NORTH AMERICAN GINSENG ON SEXUAL
BEHAVIOR IN MALE RATS

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by

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Abstract

Two North American ginseng extracts were used to test sexual behavior in healthy rats and pre-diabetic rats, with erectile dysfunction, after four weeks of oral administration. Behavioral tests assessed sexual performance while animal tissues were used to examine eNOS and nNOS protein and mRNA in central and peripheral sites known to control erectile function. Results show an improvement in erectile function during copulation in healthy rats with chronic treatment of ethanol extract of NA ginseng but not aqueous extract. In addition, eNOS and nNOS mRNA was increased in penile tissue and nNOS staining was increased in the paraventricular nucleus of the hypothalamus with acute treatment of ethanol extract. For pre-diabetic rats, ethanol extract improved erectile function during mating and penile reflex tests. Also, nNOS was increased in penile tissue with chronic treatment and eNOS with acute treatment. The results show NA ginseng ethanol extract can improve erectile function.

Keywords: North American ginseng, erection, *ex copula*, erectile dysfunction, diabetes, nitric oxide synthase, paraventricular nucleus of the hypothalamus.