Mechanism of enhancement of renal (Na(+)+K+) ATPase activity following chronic ethanol exposure.

Rodrigo,

Novoa,

Thielemann,

Granata,

Videla,

A method was devised to determine the nature of the mechanism of the increase in renal (Na(+)+K+)-ATPase in rats fed dilute ethanol for ten weeks. Antiserum to (Na(+)+K+)-ATPase obtained from rabbits was added to microsomal fractions of kidney and the activities of (Na(+)+K+)-ATPase and Mg2+ ATPase were determined. The addition of antiserum resulted in a same pattern of dose-related inhibition of (Na(+)+K+)-ATPase activity in control and ethanol-fed rats, whereas Mg(2+)-ATPase was not affected by the antiserum. These results suggest that the mechanism of ethanol-induced enhancement of renal (Na(+)+K+)-ATPase activity could be explained through an increase in the number of catalytic units.