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Effects of Beer and Hop on Ionotropic γ -Aminobutyric Acid Receptors

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Abstract

Beer induced the response of the ionotropic γ -aminobutyric acid receptors (GABA_A receptors) expressed in *Xenopus* oocytes, indicating the presence of γ -aminobutyric acid (GABA)-like activity. Furthermore, the pentane extract of the beer, hop (*Humulus lupulus* L.) oil, and myrcenol potentiated the GABA_A receptor response elicited by GABA. The GABA_A receptor responses were also potentiated by the addition of aliphatic esters, most of which are reported to be present in beer flavor. Aliphatic esters showed the tendency to decrease in the potentiation of the GABA_A receptor response with an increase in their carbon chain length. When myrcenol was injected to mice prior to intraperitoneal administration of pentobarbital, the pentobarbital-induced sleeping time of mice increased additionally. Therefore, the beer contained not only GABA-like activity but also the modulator(s) of the GABA_A receptor response.

 Keywords: Beer; GABA; GABA_A receptor; hop; myrcenol

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POLICY CONCENTRATES



Amgen unveils its KRAS covalent inhibitor. In this work, novel bactericidal and drugable, nongenotoxic structures were synthesized using covalent biology as a platform for the controlled nitric oxide (NO) release coating. S-Nitroso-N-acetyl-D-penicillamine (SNAP) was synthesized as an NO-donor,

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