

Can alcohol administration to female mice change their preference and attitude to unattractive male mouse?

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Some men sometimes invite an interested woman to bar for alcohol drinking. Alcohol makes them cheerful and improves their relationship occasionally. The man expects alcohol could decrease the threshold to open her mind, and, in some cases, lose accurate judgments about him as a sexual partner. In this research, we are trying to reveal a part of the neural activities and behavioral characteristics in male and female using a mouse model in such situation.

We have established the behavioral model for male preference of female mice, in which we found that attractiveness of male mice to female mice is dependent on their appearance, not voice nor smell. Additionally, we performed *in vivo* microdialysis analyses under the experimental conditions, and found that dopamine levels in the nucleus accumbens of female mice responded to attractive male mice, but not to unattractive male mice.

Using this model, we examined the effects of alcohol on the male preference and dopamine response of female mice.

Q1. Can alcohol-administered female mice recognize attractiveness of male mice?

Q2. Can dopamine levels in the nucleus accumbens of female mice increase at the timing to meet with an unattractive male mouse after alcohol administration?

Q3. When alcohol-administered female mouse was set in rectangular box with an unattractive male mouse in a transparent small box, does she stay close to him or opposite area of him?

Q4. After repeated conditioning with alcohol administration like as question 3, does the preference of female mice to the unattractive male mouse increase or not?

We will try to answer these questions in this presentation. These results will present the hint for how alcohol affects the relationship between male and female.