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**Effect of olfactory stimulation of TRPM8 agonist on perception of dyspnea induced by constant load exercise in healthy never-smokers**  
**TRPM8 agonist on exercise-induced dyspnea**

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**key words** TRPM8 • Exercise-induced dyspnea • Olfactory stimulation

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**【Purpose】**

Recent study have shown that a TRPM8 selective agonist inhibits the respiratory rhythm in brainstem. Thus, the purpose of the present study is to investigate the effect of olfactory stimulation of TRPM8 agonist on dyspneic sensation induced by exercise in healthy never-smokers.

**【Methods】**

The subjects consisted of 16 healthy never-smokers. Subjects completed cycling exercise with and without olfactory stimulation of menthol, a TRPM8 agonist. Subjects were asked to rate their perception of dyspnea by using the modified Borg scale.

**【Results】**

All 16 subjects completed the experiments without any difficulty or side effects. Perception of dyspnea induced by exercise showed a significant interaction between the exercise condition (olfactory stimulation and Control) and each exercise time.

**【Discussion】**

The findings of our study suggest that the olfactory stimulation of TRPM8 can relieve the perception of dyspnea induced by exercise in healthy never-smokers.