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The influence of overexpressions of microRNA-375 on the expression of thymic stromal lymphopoietin and IL-4, IL-13 in allergic rhinitis mice

Yi-long Wang¹, Zhong-lin Mu²✉¹The Second Affiliated Hospital of Hainan Medical University, Hainan China²Beijing tongren hospital & Hainan Medical Univeristy, Hainan, China

ABSTRACT Objective: To detect the expression of thymic stromal lymphopoietin (TSLP) and IL-4, IL-13 (interleukin-4, interleukin-13) through overexpression of microRNA-375 in allergic rhinitis (AR) mice. **Methods:** AR mice models with overexpression of miRNA375 were induced by ovalbumin (OVA) in Lentivirus overexpression vector AR group (Overexpression vector+OVA), lentivirus control vector AR group (Control vector+OVA) as well as AR (OVA) group. While saline was administered in control (Saline) group, nasal mucosa of each group were collected for further use. Relative expressions of TSLP and IL-4, IL-13 mRNA and proteins were detected by quantitative reverse transcriptase-polymerase chain reaction (RT-PCR) and western blot analysis. **Results:** Real-time fluorescence quantitative method verified the overexpression of miRNA375 in allergic rhinitis group, and the same method has been adopted to verify the expressions of IL-4 and IL-13 genes in the overexpression group. The relative expressions of TSLP and IL-4, IL-13 mRNA and protein decreased in overexpression of microRNA-375 nasal mucosa compared with AR group ($P<0.05$). **Conclusions:** The results indicated that the lentivirus in the nasal mucosa of mice with allergic rhinitis may affect the expression of IL-4, IL-13 and TSLP, and the expression of lentivirus in the nasal mucosa of mice with allergic rhinitis is different from that in the miR-375 lentivirus group. The expression of lentivirus in the nasal mucosa of mice with allergic rhinitis was different.

Keywords: Allergic rhinitis; MicroRNA375; Thymic stromal lymphopoietin; IL-4; IL-13

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First author: Dr. Yi-long Wang, master of science and research, the second affiliated hospital of hainan medical University, Hainan, China.
E-mail: 626585595@qq.com

✉Corresponding author: Dr. Zhong-lin Mu, professor, supervisor of postgraduate, department of Otolaryngology, Head & Neck Surgery, Hainan Medical University, Haikou, Hainan, China.
E-mail: muzhonglin2@sina.com

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