

THRIL

Chen et al. aimed to investigate the role of [long noncoding RNA \(lncRNA\) THRIL](#) in septic-induced acute lung injury. C57BL/6 mice were injected with [Adenoviruses \(Ad\)-shTHRIL](#) or negative control (NC) before caecal ligation and puncture (CLP) operation. MPVECs were transfected with Ad-shTHRIL or NC, followed by lipopolysaccharide (LPS) treatment. MiR-424 and Rho-associated kinase 2 (ROCK2) were predicted and verified as direct targets of THRIL and miR-424, respectively, by using dual-luciferase reporter assay. ROCK2 overexpression vector and shTHRIL were co-transfected into mouse pulmonary microvascular endothelial cells for 24 h before LPS treatment. Our results showed that THRIL was highly expressed in the lung of sepsis mice. CLP triggered severe lung injury and apoptosis in mice, which was abolished by THRIL knockdown. Moreover, CLP treatment visibly increased protein concentration, the number of total cell of neutrophils, and macrophages in bronchoalveolar lavage fluid (BALF). Besides, elevated protein levels of tumor necrosis factor- α , interleukin-1 β , and interleukin-6 were observed in both lung and BALF. However, inhibition of THRIL reduced the number of inflammatory cells and the production of pro-inflammatory cytokines in sepsis mouse model. The effect of THRIL on inflammatory response and apoptosis in the lung was confirmed in sepsis cell model. Moreover, mechanistic studies have shown that THRIL up-regulated ROCK2 level through sponging miR-424. Furthermore, ROCK2 overexpression reversed the inhibitory effects of THRIL knockdown on LPS-induced inflammatory response and apoptosis. Overall, in vivo and in vitro results suggested that THRIL accelerates sepsis-induced lung injury by sponging miR-424 and further restoring ROCK2 ¹⁾.

¹⁾

Chen H, Hu X, Li R, et al. LncRNA THRIL aggravates sepsis-induced acute lung injury by regulating miR-424/ROCK2 axis [published online ahead of print, 2020 Aug 17]. *Mol Immunol*. 2020;126:111-119. doi:10.1016/j.molimm.2020.07.021

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

<https://neurosurgerywiki.com/wiki/doku.php?id=thrill>

Last update: **2025/04/29 20:27**

