Cite this as: Ke NING, Zhen-biao GUAN, Hong-tao LU, Ning ZHANG, Xue-jun SUN, Wen-wu LIU, 2020. Lung macrophages are involved in lung injury secondary to repetitive diving. *Journal of Zhejiang University-Science B (Biomedicine & Biotechnology)*, **21**(8):646-656. http://doi.org/10.1631/jzus.B1900687

Lung macrophages are involved in the lung injury secondary to repetitive diving

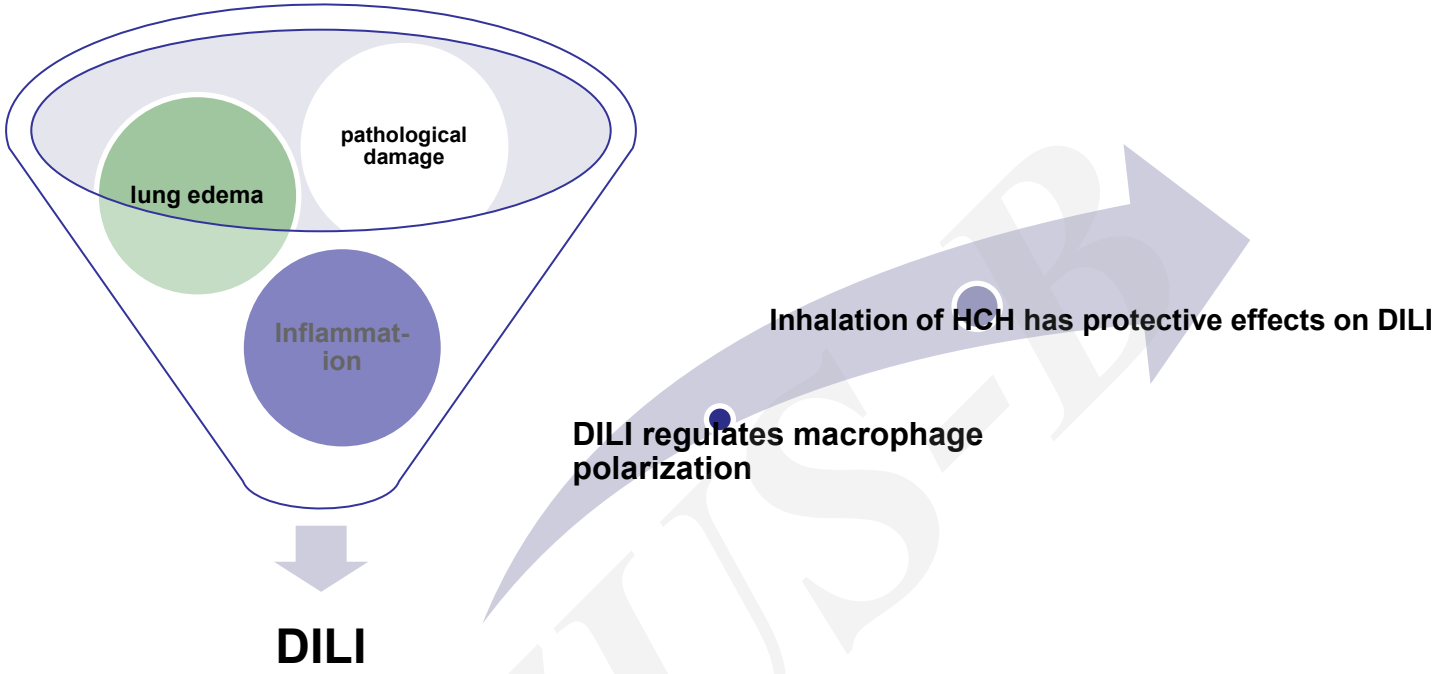
Key words: **Repetitive diving, decompression, lung injury, bubble, macrophage, inflammation**

Research Summary

This study aimed to establish an animal model of decompression-induced lung injury (DILI) secondary to repetitive diving in mice and explore the role of macrophages in DILI and the protective effects of high concentration hydrogen (HCH) on DILI.

- **Repetitive diving causes lung pathological damage, compromised lung function and lung edema**
- **Repetitive diving increases blood and lung inflammation and regulates macrophage polarization**
- **Inhalation of HCH has protective effects on DILI**

Innovation points



- **Our study for the first time investigated the DILI in a mouse model established by simulated repetitive diving as in real situation.**
- **We evaluated the lung function of mice after simulated repetitive diving, and for the first time revealed that repeated hyperbaric exposure could cause damage to the FRC and TLC.**
- **We investigated the lung macrophages in the mouse model of DILI and explored the protective effects of HCH**