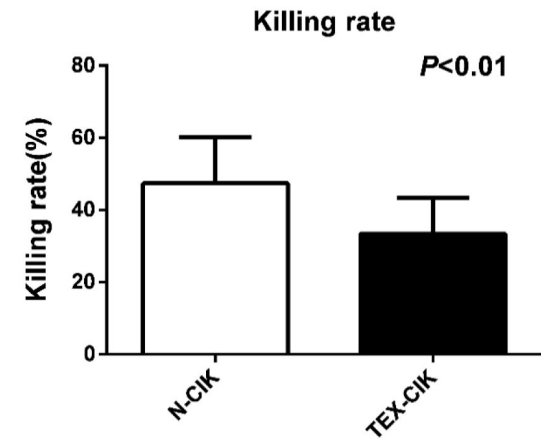
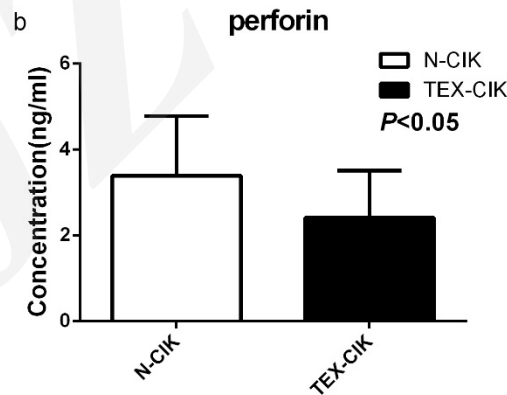
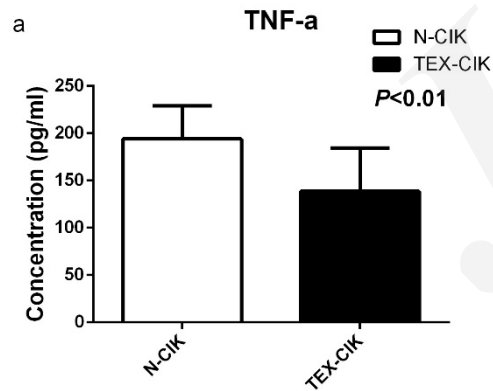
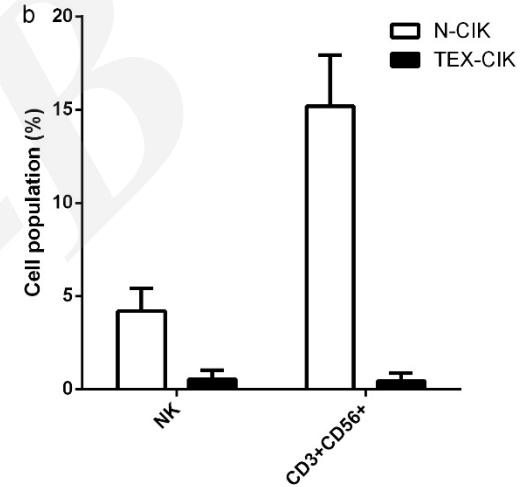
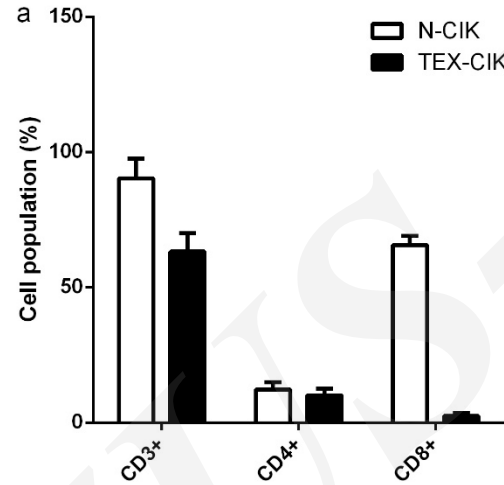
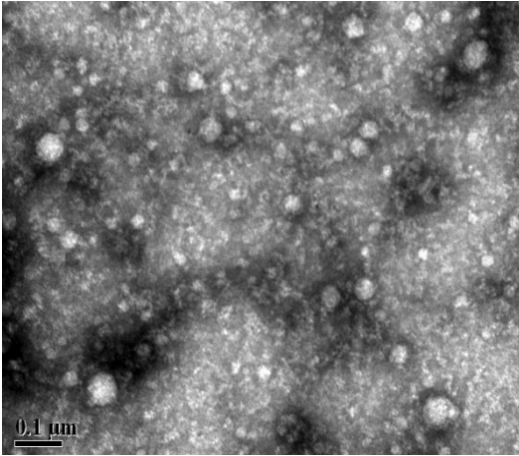


**Cite this as:** Jiong-huang CHEN, Jian-yang XIANG, Guo-ping DING, Li-ping CAO, 2016. Cholangiocarcinoma-derived exosomes inhibit the antitumor activity of cytokine-induced killer cells by down-regulating the secretion of tumor necrosis factor- $\alpha$  and perforin. *Journal of Zhejiang University-Science B (Biomedicine & Biotechnology)*. 17(7):537-544.  
<http://dx.doi.org/10.1631/jzus.B1500266>

# **Cholangiocarcinoma derived exosomes inhibit the antitumor activity of cytokine- induced killer cells by down-regulating the secretion of TNF- $\alpha$ and perforin**

**Key words:** Cholangiocarcinoma, Tumor derived exosomes, Cytokine-induced killer cells, Immune escape

# Research Summary



- The population of CD3<sup>+</sup>, CD8<sup>+</sup>, NK (CD56<sup>+</sup>) and CD3<sup>+</sup>CD56<sup>+</sup> cells decreased in the TEX-CIK group compared with the N-CIK group ( $P<0.01$ ). However, the population change of CD4<sup>+</sup> cells was not statistically significant ( $P>0.05$ ).
- The secretion of TNF- $\alpha$  ( $P<0.01$ ) and perforin ( $P<0.05$ ) was down-regulated by TEX in the CIK cells.
- The killing rate of the group TEX-CIK was significantly lower than the group N-CIK ( $P<0.01$ ).
- Conclusion: RBE cells derived exosomes (TEX) inhibit the antitumor activity of CIK cells by down-regulating the population of CD3<sup>+</sup>, CD8<sup>+</sup>, NK (CD56<sup>+</sup>), CD3<sup>+</sup>CD56<sup>+</sup> cells and the secretion of TNF- $\alpha$  and perforin. TEX may play an important role in cholangiocarcinoma immune escape