IL-8 prevent prostate cells from oxidative stress induced by GSK-3beta through active the mTOR signaling pass-way

Lu Yang, Yi Sun, Hang Xu, Jianzhong Ai, Qiang Wei.

Department of Urology, Institute of Urology, West China Hospital, Sichuan University, Chengdu, Sichuan.

Background: Explore if the IL-8 can attenuate the apologize process of prostate cancer cells induced by oxidative stress. **Methods:** We detected the expression level of IL-8 in PC3, LNCap, and PNT-2 cells. Then, test the effect of IL-8 in the proliferation and apoptosis of prostate cancer cells. And confirm the increase the expression of GSK-3beta can lead cell dead by oxidative stress. In addition, study if this oxidative stress induced by GSK-3beta can be attenuate by IL-8. Mover over, we explored the signaling pass-way in this process, including the active of mTOR and inhibit of GSK-3beta used the Western Blot. Cell Counting Kit 8 was used to test cell proliferation, and Flow cytometry was utilized to study the apologias of cell and production of ROS. **Results:** Results demonstrated that the expression of IL-8 is significantly increased in the PC3 cells compare with the LNCap cells and PNT-2 cells, while the expression in LNCap also more than PNT-2. And the IL-8 could restrain the active of GSK-3beta through phosphorylation and mTOR play an important role in this process. The GSK-3beta could induce the cells apoptosis through oxidative stress. In addition, this process regulated by the caspase-3 and could be inhibited by the IL-8 through mTOR signaling pass-way. **Conclusions:** The GSK-3beta could induced cell death by the oxidative stress, and this process is prevented by IL-8.

Conflict of Interest

There are no conflicts of interest.

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