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PGC-1α regulates the cell cycle through ATP and ROS in CH1 cells

Key words: PGC-1α, Mitochondria, OXPHOS, Cell cycle, CyclinD1, CyclinB1

Research Summary

This paper mainly focused on the function of PGC-1α on mitochondria and cell cycle, using a cell line over-expressing PGC-1α, we found the following facts:

- **Over-expression of PGC-1α stimulated extra ATP and reduced ROS production.**
- **CyclinB1/D1 were upregulated in PGC-1α cells.**
- **PGC-1α cells proliferated faster than control cells.**
- **Manipulation of ATP and ROS levels regulated expressions of cyclins.**

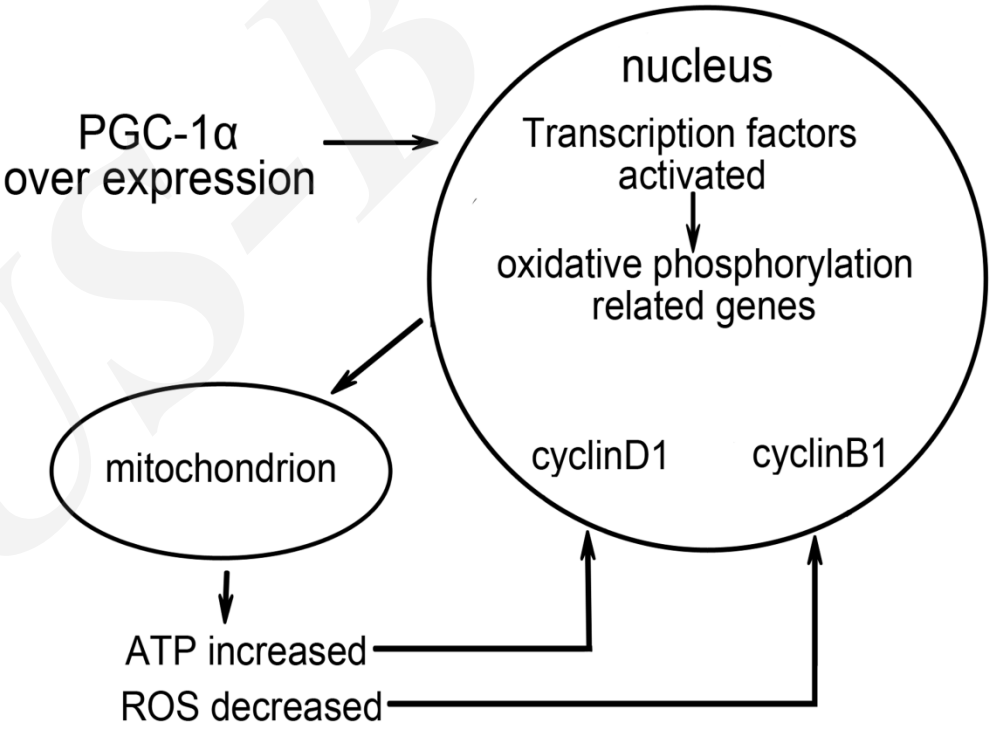
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Innovation points

- **CyclinD1 was downregulated after inhibition of ATP**

- **CyclinB1 was downregulated after elevation of ROS**

- **Link the function of PGC-1α on cell cycle with mitochondrial OXPHOS**



PGC-1α regulate cell cycle through mitochondrial pathway

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