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ETS1 is associated with *cisplatinum* resistance though IKKα/NF-κB pathway in MDA-MB-231

Yuzhu Zhang and **Hongfeng Chen**
Longhua Hospital Affiliated to Shanghai University of TCM, China

MDA-MB-231/DDP had higher IC50 value of DDP, lower intracellular DDP concentration, lower apoptosis ratio than MDA-MB-231 cell line treated with DDP. Considering the intracellular DDP concentration difference, we tested drug-resistant membrane proteins (MRP2, P-gp and BCRP), which were remarkably increased in MDA-MB-231/DDP cells. Next, we found these increased membrane proteins were induced by the activation of NF-κB pathway in MDA-MB-231/DDP cells. Furthermore, *ETS1, RPL6, RBBP8, BIRC2, PIK3A and RARS* were six important genes for DDP-resistance based on PPI network and expression validation. However, it has been reported enforced over-expression of ETS1 induced IKKα mRNA and protein expression as well as IKKα promoter activity. Our results suggested the protein expression of ETS1 and IKKα were significantly up-regulated in MDA-MB-231/DDP cells. In addition, inhibition of ETS1 expression enhances chemo-sensitivity to DDP and reversed the activation of NF-κB pathway in MDA-MB-231/DDP cells, whether ETS-1 binds to the core IKKα promoter and strongly induces its activity. Now, our team is researching the corresponding binding sites between ETS1 and IKKαby dual-luciferase and chromatin immunoprecipitation technique (ChIP).

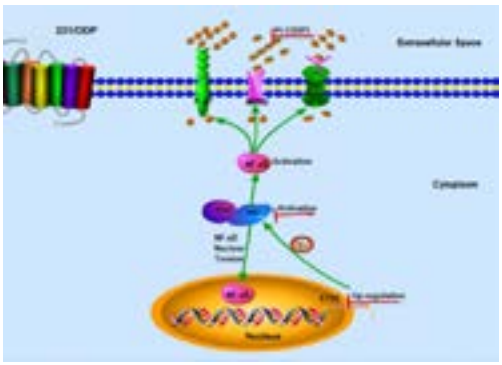

Figure 1: The pathway of ETS1/IKKα/NF-κB pathway

Biography

He is studying his PhD of medicine at Shanghai University of Traditional Chinese Medicine. His researches focus on key target genes of tumor prognosis, mechanisms of drug resistance and anti-cancer natural drugs.

z.yz1012@163.com

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