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

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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 IKKa mRNA and protein expression as well as IKKa promoter activity. Our results suggested the protein expression of ETS1 and IKKa 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 IKKa promoter and strongly induces its activity. Now, our team is researching the corresponding binding sites between ETS1 and IKKα by dual-luciferase and chromatin immunoprecipitation technique (ChIP).

**Figure 1:** The pathway of ETS1/I KKα/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.

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