

The anti-tumor role of gene UBTD1 and a positively regulatory loop between UBTD1 and p53

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Cellular senescence is a powerful barrier to oncogenesis and the mechanisms is unclear. P53 is one of the important genes in regulating cellular senescence. It was reported that p53 can bind to the promoter of UBTD1, which suggested that it may play an important role in the down stream of p53. Currently little is known about the role and mechanism of gene UBTD1 (Ubiquitin domain containing 1). Here we provide the evidence that UBTD1 is overexpressed in senescent fibroblast cells and normal gastric mucous tissues, and lowexpressed in gastric cancer cell lines and gastric cancer tissues transcriptionally and translationally, which suggests that it may play an important role in oncogenesis. We originally found the function of UBTD1 in inducing senescence, inhibiting oncogenesis and cell migration in both p53 mutant and p53 wild-type cancer cell lines by gene transfection, which suggested that UBTD1 does not depend on p53 absolutely. We also found that Ubiquitin domain is the active part of UBTD1. P53 can positively regulate the expression of *UBTD1* mRNA by directly binding to the promoter of UBTD1 by ChIP assay, and UBTD1 can inversely increase the level of p53 protein possibly by enhancing the stability of p53 protein, which preliminarily elucidate there might be a new positive regulatory loop between UBTD1 and p53. Further research is still necessary to elucidate the exact mechanism, Which may provide useful prognosis factor and new method of therapy for clinical work.

Biography

Xiaowei Zhang is presently working on his PhD at the age of 28 years at Fudan University Shanghai Cancer Center China. He is also an physician in oncology department. At present, His works involve with the target therapy of cancer and the role of some important cancer related genes.