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**Novel quinolone derivatives compound (NQDC) induced autophagic and apoptotic cell death in 5FU-resistant HT29 cells**

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In this study, novel quinolone derivatives compound (NQDC) suppressed viability in 5FU-resistant HT29 cells through inhibiting cell proliferation, causing cell cycle arrest and triggering apoptosis. In this study, we investigated the oral anti-cancer activity of NQDC and its mechanism in 5FU-resistant human colon cancer cells. Our results demonstrated that NQDC had an extremely low toxicity in normal oral cells and provoked autophagic cell death to form AVOs and autophagic vacuoles in 5FU-resistant HT29 cells by AO and MDC staining. DNA fragmentation and condensation occurred in NQDC-triggered 5FU-resistant HT29 cell apoptosis. Colorimetric assay analyses also showed that activities of caspase-3 and caspase-9 occurred in NQDC-treated 5FU-resistant HT29 cells. Overall, our findings indicate that NQDC is likely to induce autophagic and apoptotic death in 5FU-resistant HT29 cells.

**Biography**

Jai-Sing Yang is a Research Fellow at Department of Medical Research, China Medical University Hospital, China Medical University, Taiwan. His main research interests include exploring molecular mechanisms of herbal medicine and new drugs against cancer development. He has set up the research platform, mainly combining molecular pharmacology, immuno-pharmacology, cell biology, drug delivery, nano-technology, animal models and bio-informatics for screening anti-cancer activities of herbal products or newly synthetic drugs. He focuses his work on the development of natural products, traditional Chinese medicine (TCM), drug-loaded nanoparticles and the synthesis of new compounds against different types of cancers.

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