



Cu₈L₁₆ Induce Apoptosis of SGC-7901 Cells Via Mitochondrial Pathway

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SUMMARY. Cu₈L₁₆, which with an active Cu (II), has been recently found to possess potent anti-tumor activities. The mechanism of action is poorly understood; however, it has been reported that some metals such as copper and some of their complexes are toxic due to their high potential to participate in redox reactions which could cause apoptosis in cancer cells. In this study, we demonstrated that Cu₈L₁₆ significantly inhibited the growth of SGC-7901 cells along with the increase in drug absorption. Further mechanistic studies revealed that Cu₈L₁₆ treatment induced apoptosis of SGC-7901 cells which were accompanied with decrease in mitochondrial membrane potential, increase in reactive oxygen species (ROS) production, release of cytochrome C, cleavage of caspase-9, caspase-3 and poly ADP-ribose polymerase (PARP) as well as activations of bcl-2 and bax. These results indicate that Cu₈L₁₆ has a promising potential to become a novel anti-cancer agent.

KEY WORDS: Antitumor, Apoptosis, Cu₈L₁₆, ROS.

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