

In vivo and in vitro study on the mechanism of anti-cervical cancer effects of Corilagin in mice

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Abstract

Corilagin has several pharmacological effects such as anti-tumor, anti-inflammatory, and cardiovascular disease treatment. Our previous studies have shown that the Corilagin can significantly inhibit proliferation of HeLa cells. However, there is no scientific data on the anti-cervical cancer effect of Corilagin in vivo. It was speculated that the mechanism of action for the anti-cervical cancer of Corilagin could be related to PI3K/AKT and MAPK signaling pathways through network pharmacology. Results of cell assays in the present study showed that the Corilagin has significant effect on the proliferation, cell cycle and apoptosis of murine cervical cancer U14 cells in vitro. In addition, Corilagin can significantly inhibit the growth of U14 tumor-bearing mice with insignificant toxic effect on liver and kidney of the transplanted mice. The current study found that Corilagin can delay development of cervical cancer by boosting anti-tumor immune responses of body. RT-PCR and Western blotting were applied in the current study to evident that Corilagin can achieve anti-cervical cancer property by inducing apoptosis of tumor tissues through both PI3K/AKT and MAPK signaling pathways. Therefore, this study provided theoretical reference for research of Corilagin as a bio-resource for development of an anti-cervical cancer drug and functional food.

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Figure 1

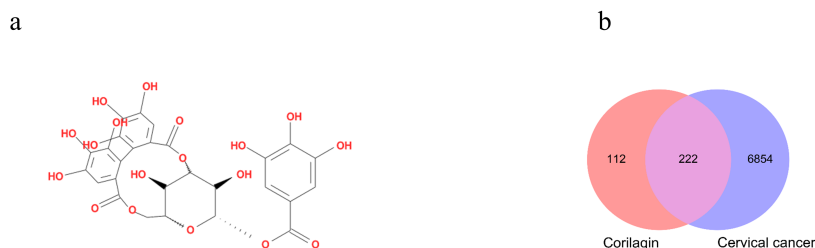


Figure 2

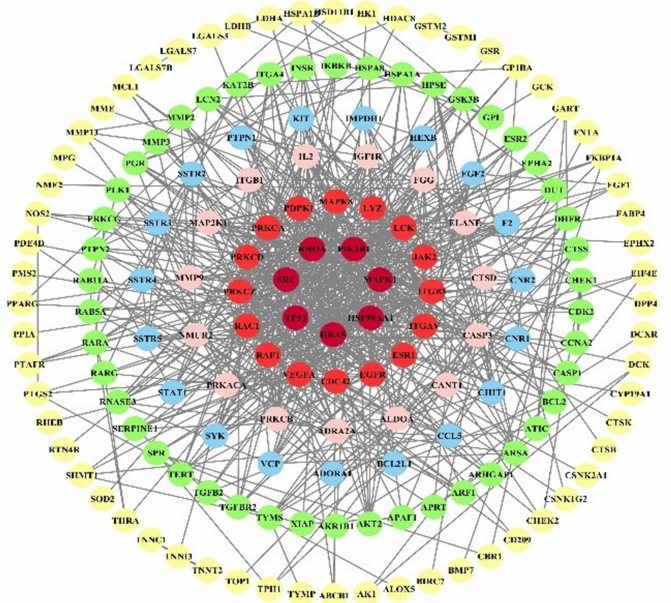


Figure 3

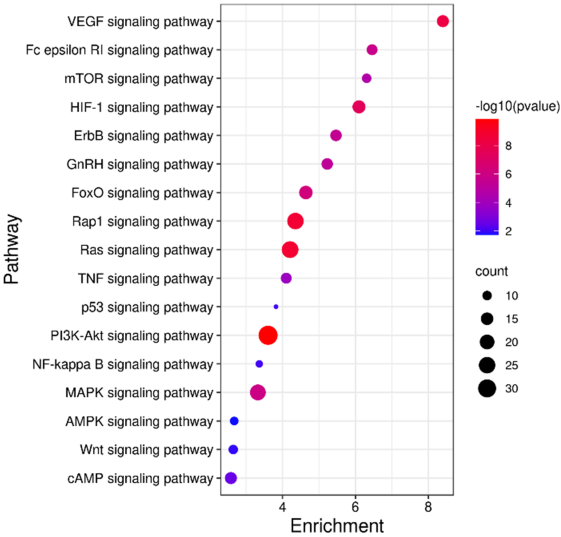


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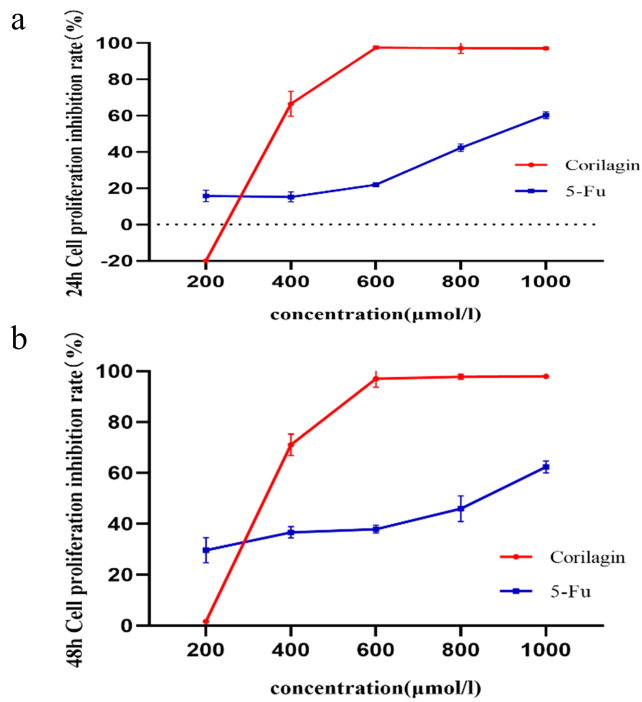


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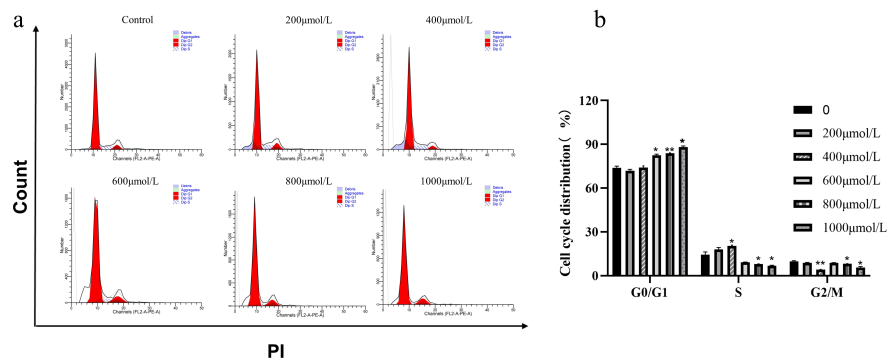


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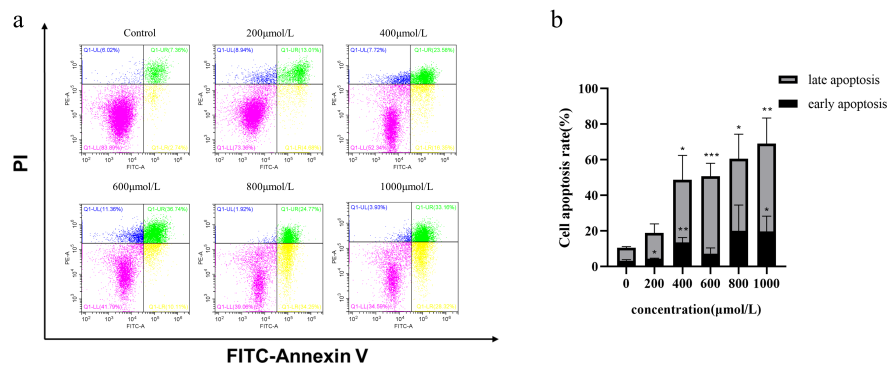


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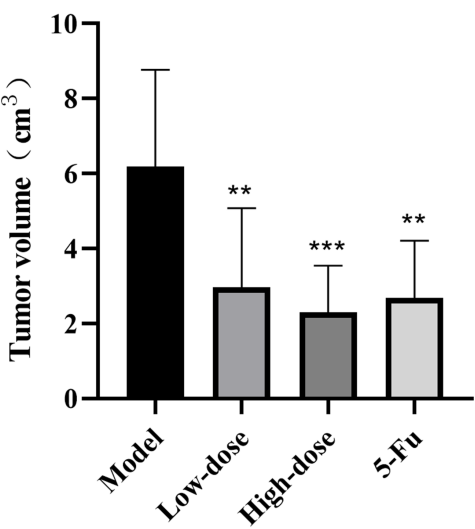


Figure 8

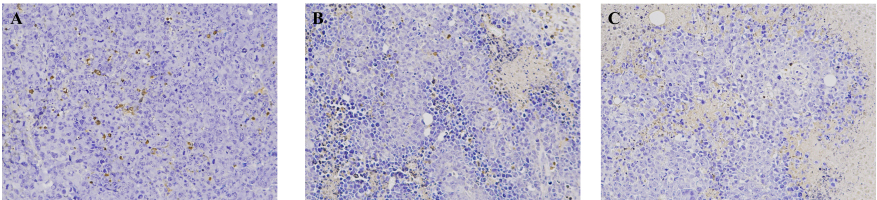


Figure 9

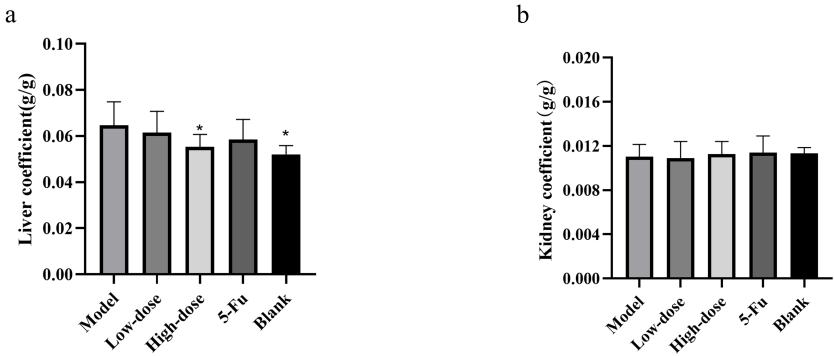


Figure 10

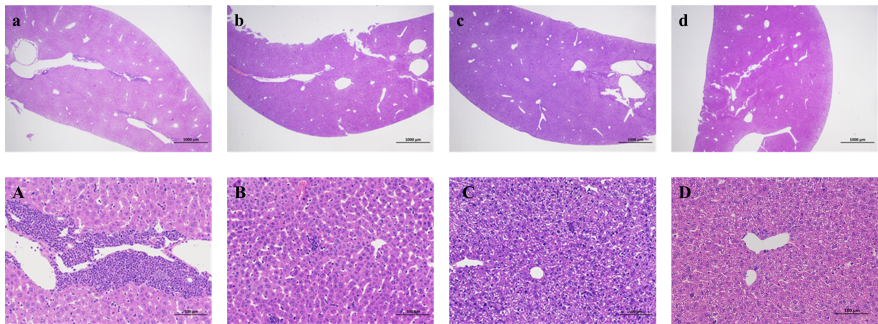


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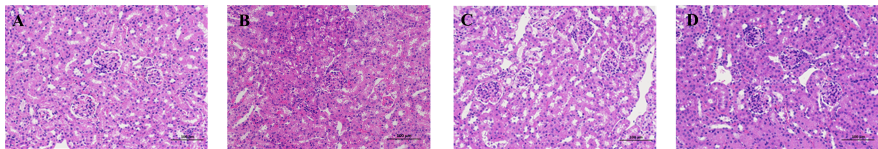


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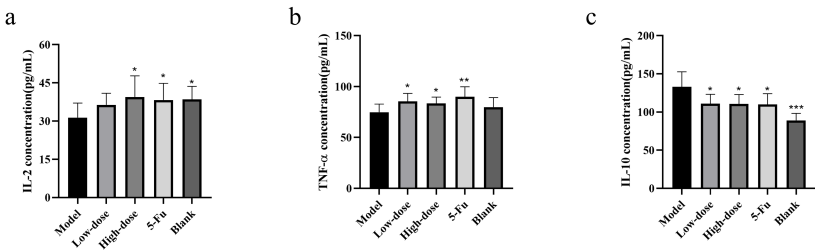


Figure 13

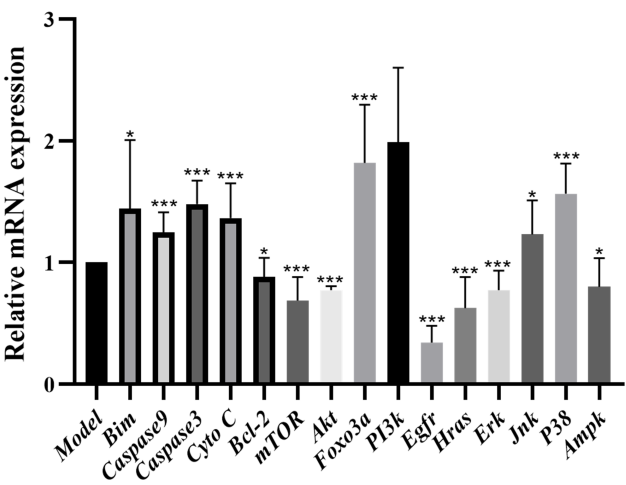


Figure 14

