

## 银杏叶聚戊烯醇同系物体外抑制乳腺癌MCF-7细胞株增殖作用及机制研究

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**中文摘要:**目的:研究银杏叶聚戊烯醇同系物体外抑制MCF-7细胞增殖的作用并初步探讨作用机制。方法:经制备反相高效液(RP-HPLC)获得银杏叶聚戊烯醇同系物,MTT法检测其对MCF-7细胞增殖的影响,选取抑制细胞增殖作用强的同系物P3,用流式细胞仪检测5,10,20mg·L<sup>-1</sup>P3对MCF-7细胞周期、细胞凋亡的影响。结果:经提取分离获得10个银杏叶聚戊烯醇同系物,依次命名为P1,P2,P3……P10,其中P3对MCF-7细胞株增殖的抑制作用最强,IC<sub>50</sub>为10.32mg·L<sup>-1</sup>,其作用机制低浓度时以阻滞细胞周期于G<sub>2</sub>/M期为主,高浓度可诱导凋亡。结论:银杏叶聚戊烯醇同系物P3为银杏叶提取物抑制MCF-7增殖的活性成分,其作用机制与阻滞细胞周期,诱导细胞凋亡有关。

中文关键词:[银杏叶 聚戊烯醇同系物 制备RT-HPLC MCF-7 细胞周期](#)

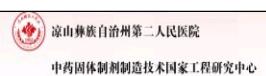
## Growth-inhibiting Effect and its Molecular Mechanism of Polyprenols from *ginkgo biloba* on Breast Cancer Cells MCF-7 *in vitro*

**Abstract: Objective:**To study the growth-inhibiting effect of polyprenols from *Ginkgo biloba* on breast cancer cells MCF-7 *in vitro* and the related molecular mechanism. **Method:**Polyprenols were extracted by preparative Reversed-phase high-performance liquid chromatography(RP-HPLC). The growth-inhibiting effect of polyprenols from *Ginkgo biloba* on breast cancer cells MCF-7 was evaluated *in vitro*. The polyprenols with best antiproliferative effect was screened and figured out. The influence of polyprenol P3 (5,10,20 mg · L<sup>-1</sup>) on mitotic cycle and apoptosis of MCF-7 cells was analyzed with flow cytometry. **Result:**Ten polyprenol monomers were obtained by preparative RP-HPLC, and were orderly named P1, P2, P3……P10.The best effective growth-inhibiting on MCF-7 cells was P3 with IC<sub>50</sub> of 10.32 mg · L<sup>-1</sup>. At low concentration,its mechanism appeared to be delaying on G<sub>2</sub>/M of mitotic cycle, and at high concentration to be inducing cell apoptosis. **Conclusion:**Polyprenol P3 from *Ginkgo biloba* could inhibit growth of breast cancer MCF-7 cells *in vitro*. Its molecular mechanism is linked with delaying on mitotic phase (G<sub>2</sub>/M) and inducing cell apoptosis.

**keywords:**[Ginkgo biloba leaves polyprenols RP-HPLC MCF-7 cells mitotic cycle.](#)

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