# 人参皂苷Rh2对神经母细胞瘤SH-SY5Y的增殖、凋亡、迁移及侵袭的影响

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**Title:** The effect of ginsenoside Rh2 on neuroblastoma cell line SH-SY5Y proliferation,apoptosis,migration and invasion

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**关键词:** 神经母细胞瘤; 人参皂苷Rh2; 基质金属蛋白酶2; 侵袭/迁移; wnt信号通路

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**摘要:** 目的:针对神经母细胞瘤（neuroblastoma，NB）早期易转移的特性,研究人参皂苷Rh2（ginsenoside Rh2）对神经母细胞瘤的增殖、凋亡、迁移及侵袭的影响。方法:用不同（5、10、20、40、80 μg/ml）浓度人参皂苷Rh2来干预神经母细胞瘤细胞系SH-SY5Y。Cell counting kit-8(CCK-8)法、细胞划痕试验、Transwell小室模型检测细胞增殖、迁移及侵袭能力；蛋白质印迹法（Western-blot，WB）试验检测不同浓度下神经母细胞瘤细胞内基质金属蛋白酶2（matrix metalloproteinase2,MMP2）、Bax、Bcl-2、β-catenin蛋白的表达。结果:人参皂苷Rh2可以时间-浓度依赖性地抑制神经母细胞瘤增殖、迁移及侵袭，降低迁移相关蛋白MMP2的表达，上调了促凋亡蛋白Bax的表达水平同时降低抗凋亡蛋白Bcl-2的表达。人参皂苷Rh2处理的神经母细胞瘤内β-catenin水平降低。结论:人参皂苷Rh2可以在体外抑制神经母细胞瘤的增殖，下调MMP2蛋白抑制肿瘤细胞迁移及侵袭，通过wnt通路抑制细胞生长。

**Abstract:** Objective:To investigate the characteristics of early metastasis of neuroblastoma (NB), the effects of ginsenoside Rh2 on proliferation,apoptosis,migration and invasion of neuroblastoma were studied.Methods: Ginsenoside Rh2 was used to interfere with neuroblastoma cell line SH-SY5Y (5,10,20,40,80 μg/ml).Cell counting kit-8 (CCK-8) assay was used to detect cell proliferation,cell scratch test was used to detect cell migration ability,transwell cell model was used to detect cell invasiveness,and Western-blot test was used to detect the expression of matrix metalloproteinase 2 (MMP2) Bax,Bcl-2,and β-catenin protein in neuroblastoma cells under different concentrations.Results: Ginsenoside Rh2 can inhibit the proliferation,migration and invasion of neuroblastoma in time and dose dependent manner to reduce the expression of migration related protein MMP2.The level of β-catenin in neuroblastoma cells treated with ginsenoside Rh2 decreased.Conclusion: Ginsenoside Rh2 can inhibit the proliferation of neuroblastoma cells in vitro,and down regulation of MMP2 protein to inhibit the migration and invasion of tumor cells,and inhibit cell growth through wnt pathway.

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