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曲格列酮抑制垂体腺瘤细胞GH3的生长及其机制 [点此下载全文](#)

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摘要:

目的: 观察过氧化物酶体增殖物激活受体 $\gamma$ (peroxisome proliferator activated receptor  $\gamma$ , PPAR $\gamma$ )激动剂曲格列酮(troglitazone, TGZ)对垂体腺瘤细胞生长和生长激素(growth hormone, GH)分泌的影响, 并探讨其可能的作用机制。方法: 采用MTT和ELISA法检测TGZ对大鼠垂体腺瘤细胞系GH3细胞增殖和GH分泌的抑制效应, 进一步应用电镜、FCM及Western blotting分别检测细胞凋亡、细胞周期以及Caspase 3、Bcl 2和Bax蛋白的表达。结果: TGZ呈剂量和时间依赖性方式抑制GH3细胞的增殖和GH的分泌; TGZ干预后的GH3细胞出现典型的凋亡形态特征; TGZ干预GH3细胞后, G<sub>2</sub>、S期的细胞比例下降, 而G<sub>1</sub>期的细胞比例明显增加; Bax和Caspase 3蛋白表达水平明显增加, 而Bcl 2蛋白表达水平下调, 且表现出剂量依赖效应。结论: PPAR $\gamma$ 激动剂TGZ可能通过诱导细胞凋亡和阻滞细胞周期来抑制垂体腺瘤细胞生长及其生长激素分泌。

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Troglitazone inhibits growth of pituitary adenoma GH3 cells and the involved mechanisms [Download Fulltext](#)

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Abstract:

Objective: To examine the effects of troglitazone (TGZ), agonist of peroxisome proliferator activated receptor  $\gamma$  (PPAR $\gamma$ ), on the growth and growth hormone (GH) secretion of pituitary adenoma cells, and to explore the possible mechanism. Methods: The inhibitory effect of TGZ on the proliferation and GH secretion of rat pituitary adenoma cell line GH3 was detected by MTT assay and ELISA. Furthermore, apoptosis, cell cycle as well as caspase 3, Bcl 2 and Bax expression of GH3 cells were examined by transmission electron microscopy, flow cytometry and Western blotting, respectively. Results: TGZ dose and time dependently inhibited the proliferation and GH secretion of GH3 cells. GH3 cells treated with TGZ had a typical morphological characteristic of apoptosis. GH3 cell number in G<sub>1</sub> phase was increased and cell number in G<sub>2</sub>, S phases was significantly decreased after treatment with TGZ. The expression of caspase 3 and Bax in GH3 cells was significantly increased and Bcl 2 expression was markedly decreased in a dose dependent manner after treatment with TGZ. Conclusion: PPAR $\gamma$  agonist inhibits the growth and GH secretion of pituitary adenoma cells through inducing apoptosis and cell cycle arresting.

Keywords: [pituitary adenoma](#) [troglitazone](#) [PPAR \$\gamma\$](#)  [apoptosis](#) [cell cycle](#)

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