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Leptin促进人脑胶质瘤U87MG细胞的迁移和侵袭 [点此下载全文](#)

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摘要:

目的: 探讨瘦素(leptin)对人脑胶质瘤U87MG细胞迁移及侵袭能力的影响及其机制。方法: Leptin处理U87MG细胞, 采用细胞划痕实验检测U87MG细胞的迁移能力, Transwell实验检测U87MG细胞的侵袭能力, RT-PCR及Western blotting法检测U87MG细胞中MMP-2及MMP-9 mRNA和蛋白的表达。结果: Leptin明显促进U87MG细胞迁移能力[(152.42±3.29) vs (83.24±2.61) μm, P<0.05]和侵袭能力[(31.78±5.04) vs (17.03±2.41) 个细胞, P<0.05], leptin能显著上调U87MG细胞中MMP-2、MMP-9 mRNA [(0.76±0.04) vs (0.35±0.02), (0.84±0.02) vs (0.41±0.06); 均P<0.05]及蛋白[(0.79±0.03) vs (0.23±0.01), (0.81±0.05) vs (0.39±0.03); 均P<0.05]的表达。MMP抑制剂GM6001 (10 μmol/ml)可以逆转leptin对U87MG细胞迁移 [(82.05±2.98) vs (81.76±3.25) μm, P>0.05]和侵袭能力[(19.23±2.46) vs (18.02±1.98) 个细胞, P>0.05]的影响。结论: Leptin可以促进人脑胶质瘤U87MG细胞的侵袭及迁移, 其机制可能与上调MMP-2、MMP-9的表达有关。

关键词: [瘦素](#) [人脑胶质瘤](#) [U87MG细胞](#) [MMP-2](#) [MMP-9](#) [迁移](#) [侵袭](#)

Leptin promotes migration and invasion of human glioma U87MG cells [Download Fulltext](#)

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Abstract:

Objective: To investigate the effect of leptin on the migration and invasion of human glioma U87MG cells, and explore its molecule mechanism. Methods: U87MG cells were treated with leptin, the cell migration was analyzed by cell scratch assay, cell invasion was detected by Transwell, and mRNA and protein expressions of MMP-2 and MMP-9 in U87MG cells were observed by RT-PCR and Western blotting assay. Results: Leptin significantly promoted migration [(152.42±3.29) vs (83.24±2.61) μm, P<0.05], and invasion [(31.78±5.04) vs (17.03±2.41)/field, P<0.05] of U87MG cells; the mRNA and protein expressions of MMP-2 and MMP-9 were significantly upregulated by leptin in U87MG cells (mRNA: [0.76±0.04] vs [0.35±0.02], [0.84±0.02] vs [0.41±0.06], P<0.05; protein: [0.79±0.03] vs [0.23±0.01], [0.81±0.05] vs [0.39±0.03], P<0.05); MMP inhibitor GM6001 reversed U87MG cell migration [(82.05±2.98) vs (81.76±3.25) μm, P>0.05] and invasion [(19.23±2.46) vs (18.02±1.98)/field, P<0.05] induced by leptin. Conclusion: Leptin can promote the invasion and migration of human glioma U87MG cells, which might related with the upregulation of MMP-2 and MMP-9.

Keywords: [leptin](#) [human glioma](#) [U87MG cell](#) [MMP-2](#) [MMP-9](#) [migration](#) [invasion](#)

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