題名:Rosiglitazone reduces cell invasiveness by inducing MKP-1 in human U87MG glioma cells.

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摘要:We sought to investigate the molecular mechanisms by which rosiglitazone (RGZ) inhibits cell invasion in human glioma cells. In this study, we found that RGZ attenuated MMP-2 protein levels, MMP-2 gelatinolytic activity, and cell invasiveness through a PPAR-c independent pathway. RGZ increased mitogen activated protein kinase phosphatase-1 (MKP-1) expression. The addition of triptolide (a diterpenoid triepoxide, which blocked MKP-1 induction) abolished the inhibitory effects by RGZ. Furthermore, we demonstrated that the knock down of MKP-1 by MKP-1 specific small interference RNA reversed the reduction of MMP-2 secretion, and of cell invasiveness by RGZ. In contrast, the stable expression of MKP-1 in glioma cell lines decreased MMP-2 activity and cell invasiveness. These results suggest that RGZ may mediate the inhibitory effects through MKP-1 induction. Thus, MKP-1 could be a potential target in glioma therapy.