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**1:** [J Neuropathol Exp Neurol.](#) 2009 May;68(5):525-34.



**Intracerebral Interleukin 12 Induces Glioma Rejection in the Brain  
Predominantly by CD8+ T Cells and Independently of Interferon-gamma.**

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The prognosis of gliomas is generally poor since these tumors elude established therapeutic approaches. Immunotherapy might present an effective therapy in particular because the glioma cells are diffusely dispersed in the infiltration zone of the tumor and show a strong propensity to invade the surrounding brain along white matter tracts. Although various immune therapies for brain tumors are successful in rodents, there is currently no effective therapy in humans. In the present study, we investigated the mechanisms by which intracerebral IL-12 mediates rejection of GL261 cells in a syngenic mouse glioma model. Wild type mice revealed smaller tumors as compared to mice lacking functional T and B cells indicating that considerable immune dependent tumor rejection occurs physiologically in this model. However, glioma rejection was significantly enhanced in mice expressing IL-12 in the CNS and was predominantly dependent on the presence of CD8+ T cells while CD4+ T cells had less impact. Interestingly, the rejection of tumors was independent of IFN-gamma. Our findings contrast results obtained after in vitro or systemic stimulation with IL-12 and demonstrate that successful IL-12 induced glioma rejection critically depends on the localization, duration and time of IL-12 expression.

PMID: 19525900 [PubMed - in process]

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