

Glioma antigen

Immunotherapy applications to glioblastoma represent a new treatment frontier. Antigen-targeted immunotherapy approaches hold enormous potential to elicit antigen-specific anti-tumor effects in central nervous system tumors. Still, the paucity of effective antigen targets remains a significant obstacle in safely and effectively treating glioblastoma and other malignant gliomas with relatively low mutation loads. In this review, we highlight the current understanding of and development of immunotherapy to target 1) shared non-mutant antigens 2) shared mutant antigens (neoantigens) derived from cancer-specific mutations 3) personalized neoantigens derived from tumor-specific genetic alterations containing de novo peptide sequences and 4) virus-derived antigens. We also discuss strategies to enhance tumor immunogenicity and neoantigen prediction. Spatial heterogeneity remains a formidable challenge for immunotherapy of glioma; recent advances in targeting multiple antigens and refining the antigen selection pipeline hold great promise to turn the tide against glioma ¹⁾

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Nejo T, Yamamichi A, Almeida ND, Goretsky YE, Okada H. Tumor antigens in glioma. *Semin Immunol.* 2020 Feb;47:101385. doi: 10.1016/j.smim.2020.101385. Epub 2020 Feb 6. PMID: 32037183.

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