

Review

BioDrugs. 2023 May 31. doi: 10.1007/s40259-023-00598-2. Online ahead of print.

Novel Immunotherapeutic Approaches for the Treatment of Glioblastoma

Saïf Eddine Zaidi ^{1 2}, Eliese Moelker ¹, Kirit Singh ¹, Aditya Mohan ¹, Miguel A Salgado ¹, Muhammed Amir Essibayi ^{3 4}, Kelly Hotchkiss ¹, Steven Shen ¹, William Lee ⁵, John Sampson ¹, Mustafa Khasraw ⁶

Affiliations

PMID: 37256535 DOI: [10.1007/s40259-023-00598-2](https://doi.org/10.1007/s40259-023-00598-2)

Abstract

Glioblastoma is highly aggressive and remains difficult to treat despite being the most common malignant primary brain tumor in adults. Current standard-of-care treatment calls for maximum resection of the tumor mass followed by concurrent chemotherapy and radiotherapy and further adjuvant chemotherapy if necessary. Despite this regimen, prognosis remains grim. Immunotherapy has shown promising success in a variety of solid tumor types, but efficacy in glioblastoma is yet to be demonstrated. Barriers to the success of immunotherapy in glioblastoma include: a heterogeneous tumor cell population, a highly immunosuppressive microenvironment, and the blood-brain barrier, to name a few. Several immunotherapeutic approaches are actively being investigated and developed to overcome these limitations. In this review, we present different classes of immunotherapy targeting glioblastoma, their most recent results, and potential future directions.

© 2023. The Author(s), under exclusive licence to Springer Nature Switzerland AG.