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(54) **Title:** METHODS AND COMPOSITONS FOR TREATING CANCER

(57) **Abstract:** Described are compositions and methods relating to immune cells which express both a chimeric antigen receptor which binds to the IL13 receptor α -2 (IL13R α 2) and a O⁶- methylguanine DNA methyltransferase (MGMT) protein. Viral particles containing an IL13 chimeric antigen receptor (IL13CAR) or variant thereof and an MGMT protein or variant thereof are used to transfect immune cells such as T cells, imparting to the transfected cells both IL13R α 2-targeting activity and resistance to the chemotherapeutic agent temozolomide (TMZ). The compositions and methods described are useful for cancer therapy such as the treatment of a high-grade malignant glioma.



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