



Treatment of Cancers With A Regimen of Targeted Radionuclide Therapy and Dual CAR T Cell Therapy

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The Invention

UW-Madison researchers have developed a new CAR T cell technology to be used in combination with targeted radionuclide treatment for treating solid tumors. The patient is dosed with low dose targeted radionuclide treatment which kills some of the tumor and damages other tumor cells. The damaged tumor cells express high levels of stress proteins on their surface. The CAR construct used to create the CAR T cell, includes a standard CAR as well as gene expressing a protein for binding a neoantigen. Using this bicistronic CAR T cell should reduce toxicity issues and improve tumor cell specificity.

The inventors have created a bicistronic CAR T cell that recognizes GD2 (a standard CAR target) and an chemical molecule linked to an antibody that binds calreticulin (CRT) – a protein that moves from inside the cell to the membrane upon treatment with targeted radionuclides. This treatment strategy could involve repeated cycles of treatment which should result in cyclic membrane expression of CRT. The cyclic expression of one of the T cell targets may prevent T cell exhaustion – a condition where the T cell loses activity over time due to a high, acute level of activity against the solid tumor. The inventors need to do further testing to optimize the treatment protocol.

Additional Information

For More Information About the Inventors

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Tech Fields

- [Therapeutics & Vaccines : Oncology](#)

For current licensing status, please contact Andy DeTienne at adetienne@warf.org or 608-960-9857