

VRG announces major milestone in chlorotoxin targeted CAR T therapy in glioblastoma

Vascular Research Group announced preclinical results of their proprietary CAR T CTXA8 superior to current clinical stage competitor containing natural CTX

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[Vascular Research Group \(VRG\)](#), a peptide-based pharmaceuticals, cellular & gene therapy (CGT) company announced that their proprietary chlorotoxin (CTX) analogue, CTXA8, an antigen recognition domain in CAR T-cells, shows high potency in eliminating glioblastoma multiforme (GBM) cells in a preclinical in vitro GBM model. CTXA8 CAR modified T-cells demonstrated superior efficacy over the CAR T candidate employing natural CTX currently in a Phase 1 clinical trial.



CTXA8 has been developed using VRG's "designer miniprotein" platform. "We are very excited about these preclinical results that are in line with CTXA8's superior affinity and selectivity towards MMP2 versus the natural CTX containing clinical stage competitor" – said Dr. Zalán Péterfi, Managing Director of VRG. "We look forward to reaching out and working with prospective partners to translate these promising developments into significant improvements in patient outcomes".

About CAR-T therapy targeting brain tumors: CAR T-cells are modified white blood cells expressing a chimeric antigen receptor (CAR) against a specific tumor antigen that holds the potential of identification and elimination of cancer cells. High overexpression of MMP2 protein in GBM has recently been utilized as a new target and the initial results from the ongoing Phase 1 trial show that CTX targeted CAR T therapy could be a game changer for this indication.

The safety and efficacy of CAR T therapies strongly depend on the specificity and selectivity of the tumor-targeting domain of the chimeric antigen receptor. Using its designer "miniprotein" platform, VRG has developed a proprietary CTX analog, CTXA8 that provides a solution for directed antitumor activity. CTXA8 as a targeting agent of CAR T-cells, exerts a major effect on MMP2-overexpressing GBM while sparing normal tissues with low MMP2 expression. VRG's latest results show that CTXA8 CAR T-cells demonstrate faster and improved killing of tumor cells within 24 hours with an effector-target ratio of 1:3, which predicts higher efficacy and lower off-

tumor effect compared to the CAR T therapy with original CTX currently in Phase 1. The increased efficacy of CTXA8-based CAR T therapy is due to the increased affinity and selectivity of CTXA8 versus original CTX towards MMP2 overexpressing tumor cells. This is further supported by a cytokine release assay in which CTXA8 CAR T-cells secreted 3 times more IFN gamma than CTX CAR Ts.

[About VRG's miniprotein platform:](#) The “designer miniprotein” technology platform, based on naturally occurring toxins and other peptide molecules, employs a directed evolution approach for selecting the best candidates from a peptide mega-library with more than a million randomly generated variants.

[About VRG:](#) Vascular Research Group is a biopharmaceutical company located in Budapest, Hungary. VRG is a part of the Vascular Group with various business activities in the healthcare industry. VRG generates proprietary proteins/peptides using a directed evolutionary approach and employs them as small protein pharmaceuticals or as Cellular & Gene Therapeutics. VRG's strategy is to cure diseases via targets and MoAs that cannot be reached with traditional approaches using small molecules or natural peptide-based pharmaceuticals.

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