

Clinical trial and drug approval of the next generation CD19 CAR-T designed to overcome immune-suppressive environment



ONCOLOGY	Phase 1
Product Type	CAR-T
Indication	High-grade B cell lymphoma
Target	CD19-positive B cell lymphoma
MoA(Mechanism of Action)	CD19 CAR protein binds to a cancer cell which expresses CD19 protein; after binding, the activation of 4-1 BB and CD3zeta located in the C-terminal region of CAR protein leads to proliferation of CAR-T cells, activation of effector functions, secretion of inflammatory cytokines, etc. Such activation of CAR-T cells results in the deaths of target cells expressing CD19. In addition, Curocell Inc.'s OVISTM CD19 CAR-T (anbalcabtargene autoleucel) expresses shRNAs for PD-1 and TIGIT which degrade the mRNAs of PD-1 and TIGIT, preventing the binding of immune checkpoint ligands to those receptors, which leads to an increased CAR-T persistence in the body, and consequently, an improvement of CAR-T activity.
Competitiveness	OVISTM CD19 CAR-T (anbal-cel) is a next-generation CAR-T designed to overcome immune-suppressive environment by downregulation of immune checkpoint receptors, leading to prevention of CAR-T dysfunction. PD-1 and TIGIT downregulation is predicted to confer a superior therapeutic activity to OVISTM CAR-T over conventional CAR-T treatment.
Development Stage	Phase 1 clinical trial has finished in Mar. 2022. Phase 2 clinical trial is ongoing.
Route of Administration	Intravenous