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Development of iPSC-derived NK cell therapy to induce chemotaxis of immune cells for liver cancer treatment

TSD Life Sciences Inc.

TSD LIFE SCIENCES

ONCOLOGY | **Lead**

Product Type	Gene/Cell Therapy & Nucleic acids
Indication	Solid tumor
Target	Relapsed/refractory solid tumor patients
MoA(Mechanism of Action)	Along with the surveillance and detection of cancer cells by the intrinsic ability of NK cells, the transduced compounds (IL-7, CCL19) enhance and recruit the host's immune cells.
Competitiveness	- NK cells are well known for their inherent immune-monitoring function. They were considered as candidates for **allogeneic immune cell therapy,** due to its **low toxicity and low immunogenicity.** - iPSC-derived NK cell therapy can improve upon some of allogeneic NK cell therapy's disadvantages: individual variation of cell quality, gene editing difficulty and cost. But its complex differentiation process remains a hurdle in the production of iPSC-derived NK cells. - We are producing gene-engineered iPSC-derived NK cells named **7x19 iNK.** They are engineered to express IL-7 and CCL19, known to induce chemotaxis and enhance antitumoral activity of T cells or dendritic cells (DCs). - We do not only focus on the "killing ability" of NK cells, but also on the "immune surveillance" of NK cells. The main mechanism of action of 7x19 iNK is to initiate an immune response and help host immune cells kill the cancer cells, similar in concept to an **immune checkpoint inhibitor.**
Development Stage	Lead
Route of Administration	Intravenous injection