RS-2024-00338747

Non-clinical Development of gene therapy drug candidates based on oncospreading retroviral vectors

[a:rtiCure]

Disease Area	***Neoplasm***
Product Type	Split, pseudotyped-Replicating Retroviral Vectors encoding two suicide genes
Indication	1st indication: Glioblastoma 2nd indication: Incurable neoplasms (TNB etc.)
Target	Proliferating tumor cells
Mechanism of Action	Expression of suicide genes (TK & CD) during replication in tumor cells and spread on tumor tissue > Treatment of prodrugs (GCV & 5-FC) > Induction of cancer cell-death and anti-tumor immunity
Competitiveness	- Unlike oncolytic viruses. little immune reaction against the viral vectors - No early clearance of the viral vectors after injection - Minimized recombination during reverse transcription for viral replication - Can be armed with multiple therapeutic genes, such as suicide/cytokine/CAR-targeting genes without size limitation
Development Stage	Candidate (GLP-toxicity and GMP manufacturing)
Route of Administration	Intra-tumoral or into tumor bed (systemic injection: under developing)
Key Data	*In vivo* Efficacy Evaluation Syngeneic, orthotopic rat model (ARTI 101) > 100% tumor eradication and survival (Group B) Mouse xenograft model using human U87-MG cells > 100% eradication and survival *In-House* Safety Evaluation Virus Producer Cells (VPC)
IP	1. US 9,657,312 B2 2. US 10,039,841 B2/GB2572716/CN 110225977 B/KR 10-1885438 3. US 11,970,708 B2/GB2614168/JP7412832/Korea & China(under review)