

AlloNK® Cell Therapy Is More Cost-Effective than CAR T Treatments for Rheumatologic Diseases

Nicholas Veomett^{1,*}, Subhashis Banerjee¹, Michael Saddekni¹, Feng Xu¹, Chris Horan¹, Kathy Perez², Guillermo Valenzuela²

*Presenting author; ¹Artiva Biotherapeutics, San Diego, CA ²Integral Rheumatology & Immunology Specialists and IRIS Research and Development, Plantation, FL



Introduction

Deep B-cell depletion with CAR T cells generates high rates of durable disease remission in multiple immune-mediated diseases. However, autologous CAR T (auto-CAR T) requires leukapheresis, significant manufacturing wait times, access to accredited centers for administration, and hospitalization during and following treatment for observation. This creates additional cost and burden to the patient, healthcare providers, and payers. Safety events such as cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS), known to occur with CAR T therapies, add further costs to patient management. One study reported mean non-drug costs of \$382,947 per patient for leukemia/lymphoma patients treated with an approved auto-CAR T^[1].

AlloNK® (also referred to as AB-101), a non-genetically modified, allogeneic, off-the-shelf, cryopreserved NK cell therapy, in combination with a monoclonal antibody (mAb) targeting B-cells, has the potential to generate deep B-cell depletion without the safety risks of CAR T cells, in a more convenient and cost-effective manner in an outpatient setting. AlloNK is currently being evaluated in 3 ongoing clinical trials for the treatment of B-cell driven rheumatologic diseases, including a company-sponsored basket trial across 4 rheumatologic diseases that includes rheumatoid arthritis (RA) and Sjögren disease. Across these trials, the entire treatment regimen is administered in outpatient clinics, excepting the first 4 sentinel subjects who were required to be hospitalized for overnight observation for monitoring only, as per regulatory requirements. Of the first 32 patients dosed in these studies as of data cutoff date of October 1, 2025, there was no reported CRS or ICANS. Infection rates were similar to that with approved biologics used for treating conditions such as RA^[2].

Objectives

We aimed to determine the cost to the healthcare system associated with the AlloNK treatment regimen using the experience of patients with RA or SLE treated in a Phase 1 trial conducted at a single practice (Integral Rheumatology & Immunology Specialists, Florida, USA). We hypothesized that costs associated with the treatment regimen (excluding cost of the drug product itself) would be markedly lower with the AlloNK regimen compared to auto-CAR T.

Methods

AlloNK is being investigated in an open-label, single-center basket trial (NCT06581562) in B-cell associated rheumatologic diseases, including rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE). The treatment regimen included lymphocyte conditioning with cyclophosphamide and fludarabine, two doses of rituximab, and three weekly AlloNK infusions, for a total of 6-7 infusion days, all administered in an outpatient clinic at the practice.

All non-AlloNK portions of the treatment regimen and adverse event (AE) management were included in the analysis, with the exception of two protocol-mandated overnight hospitalizations for observation only for the first patient in each disease cohort (RA, SLE). Site-specific acquisition costs for medications and Medicare reimbursement rates for each procedure were applied:

- Cyclophosphamide, fludarabine, rituximab, and methylprednisolone: site-specific acquisition cost
- Infusions: CPT codes 96413 and 96415
- Physician visit for AE management: CPT code 99215
- Site-specific facility fees

Conclusions

AlloNK, an off-the-shelf allogeneic NK cell therapy, can be delivered in the outpatient setting with approximately 20-fold lower non-drug costs than has been reported for auto-CAR T. These findings suggest AlloNK may substantially reduce financial and logistical barriers to adoption of this cell therapy in rheumatologic diseases.

Similar trends in safety have been observed across patients treated in all 3 ongoing studies of AlloNK in combination with B-cell targeted mAbs in rheumatologic diseases. Of the first 32 patients dosed in these 3 studies (including the 9 patients in this report), as of the October 1, 2025, data cutoff, there was only one patient hospitalized within the first 28 days of treatment (for IV antibiotic treatment for Grade 3 actinomycotic skin infection unrelated to AlloNK). There were no hospitalizations for any AE related to AlloNK treatment. Given this safety and tolerability profile, we expect the ancillary treatment costs may be similar across all these patients to the results presented here for 9 patients at a single center.

Finally, in contrast to approved auto CAR T therapies with high COGS requiring pricing at \$373,000 or more per patient^[6], AlloNK is produced in a scalable manufacturing process with COGS projected at less than \$1,000 per 1 billion cell vial of AlloNK. Current clinical studies dose between 3 to 12 total vials per patient, leaving room for AlloNK to be commercially viable with lower costs to the healthcare system than CAR T therapies.

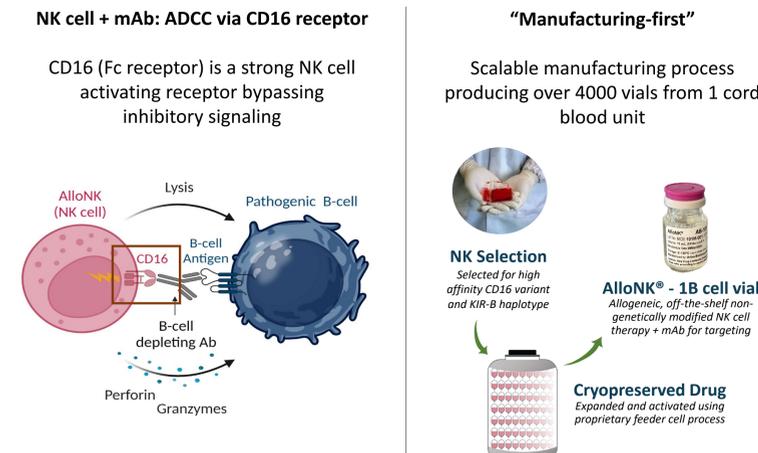
Figure 1: Treatment with AlloNK vs. autologous CAR T

	AlloNK	Auto-CAR T CASTLE ^[3]
No. of Patients	32	24
CRS (any Gr / Gr 3+)	- / -	75% / -
ICANS* (any Gr / Gr 3+)	- / -	- / -
Tocilizumab Usage Related to CRS	-	58%
Infections (any Gr / Gr 3+)	15.6% / 3.1%	N.R. / 13%

* ICANS has been observed in other CAR T studies in patients with autoimmune disease. Note: No head-to-head trial has been conducted evaluating AlloNK against other data included herein. Differences exist between clinical trial design, patient populations and the product candidates/products themselves, and caution should be exercised when comparing data across trials.
Note: Preliminary data as of October 1, 2025 data cutoff, for Cy / Flu + AlloNK + mAb from ongoing autoimmune clinical trials: Phase 2a basket trial, Phase 1/1b trial in SLE/LN, investigator-initiated basket trial
N.R.: Not Reported

Summary of CRS, ICANS, tocilizumab use, and infections from 32 patients treated with AlloNK + B-cell targeted mAbs across 3 clinical trials, compared to exemplary data utilizing CD19-targeted auto-CAR T.

Figure 2: AlloNK MoA and manufacturing process



AlloNK: AlloNK has been optimized for combination with mAbs through selection of cord blood units with the natural high-affinity variant of CD16 (158V/V polymorphism)^[5] to enhance ADCC via combination with B-cell targeting mAbs. A highly scaled manufacturing process enables production of 1000s of doses from a single donor cord blood unit (CBU). Commercial Cost of Goods Sold (COGS) is projected at less than \$1,000 per 1 billion cell vial of AlloNK.

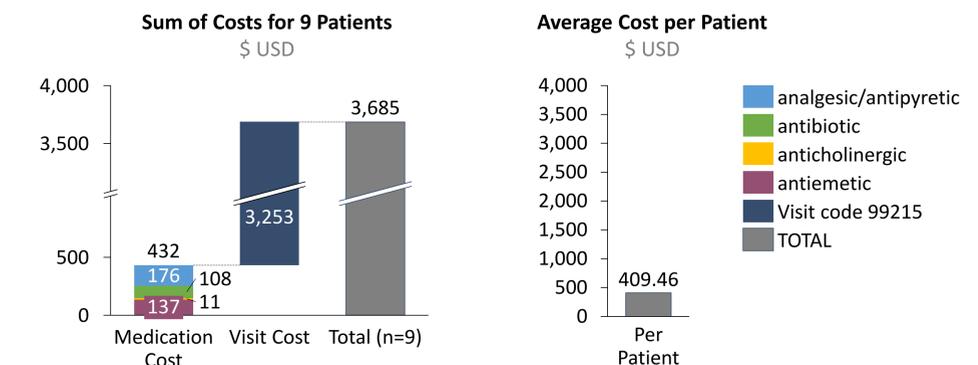
Results

As of January 2, 2026, 9 patients in this trial received AlloNK in combination with rituximab, following lymphocyte conditioning with cyclophosphamide and fludarabine. All patients had at least 24 weeks of follow-up, with one patient having one year of follow-up. No patient required hospital admission for AE management, and there was no grade 3 or higher AE and no SAE reported. AEs requiring treatment were managed with supportive care (antiemetics, analgesics/antipyretics, NSAIDs) or with antibiotics. The mean non-AlloNK cost per patient, inclusive of all other study drugs, was \$18,301. Of this, \$17,891.18 was related to the treatment regimen, and \$409.46 to AE management.

Table 1. Treatment regimen-related costs, including all non-AlloNK study drugs and infusions.

	Cost / Event	Events / Patient	Cost / Patient
Medication Costs (per dose)			
Cyclophosphamide	\$475.14	1	\$475.14
Fludarabine	\$390.24	3	\$1,170.72
Rituximab	\$5,665.18	2	\$11,330.36
Methylprednisolone	\$120.64	1	\$120.64
Infusions			
IV Flu + IV ritux, 7hr	\$1,261.68	1	\$1,261.68
IV Flu, 1hr	\$480.24	1	\$480.24
IV Flu + IV Cy, 2hr	\$610.48	1	\$610.48
IV AlloNK, <1hr	\$480.24	1	\$480.24
IV AlloNK, <1hr	\$480.24	1	\$480.24
IV ritux, 5hr	\$1,001.20	1	\$1,001.20
IV AlloNK, <1hr	\$480.24	1	\$480.24
TOTAL			\$ 17,891.18

Figure 3. Adverse event management-related costs, including cost and class of prescribed medications and billing for physician visits.



References

1. Maziarz et al. Transplantation and Cellular Therapy Meetings 2021 Abstract #370
2. Infection rates in USPI for Humira, Rinvoq, Orencia and Rituxan
3. Müller et al. Nature Med, 2026.; Hagen et al ACR 2025. Abstract #0641
4. Bucci et al. ACR 2025. Abstract #0236
5. Musolino et al. J Clin Oncol, 2008.
6. Yescarta list price at launch; Kymriah list price in DLBCL

Disclaimer: Copies of this poster are for personal use only and may not be reproduced without permission from Tandem Meetings and the sponsor of this poster.

Contact Email Address: info@artivabio.com

