Artiva Biotherapeutics

Corporate Presentation
August 2024

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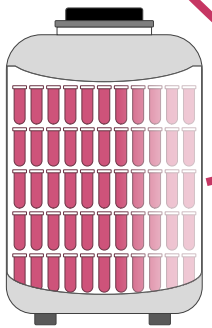
Artiva's strategy: To develop safe and effective NK cell-based therapies that patients and physicians can utilize in a community setting

1 ***"Manufacturing-first" Scalable manufacturing process with NK cells sourced from cord blood units***

2 ***AlloNK Proposed MoA: Off-the shelf, non- genetically modified NK cell therapy that utilizes a monoclonal antibody for targeting***

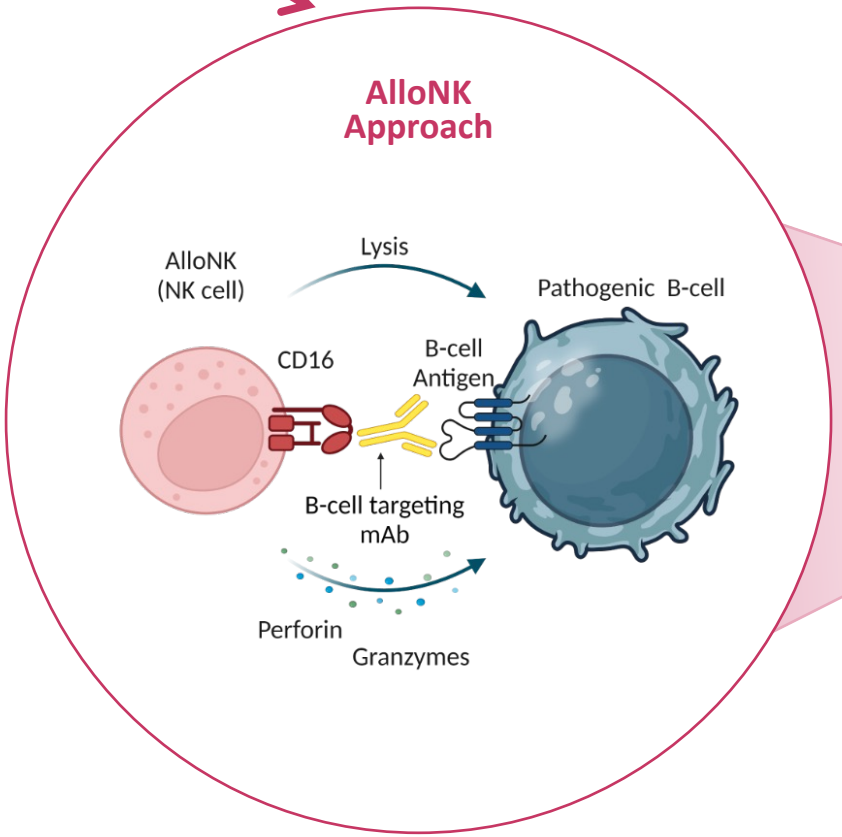
3 ***Off-the-shelf with the potential to be administered in a community setting***

Cord Blood Unit



Drug Product
Cryostorage

Expanded and Activated NK Cells from Cord Blood Unit



Artiva: Developing allogeneic, off-the-shelf, NK cell-based therapies for patients suffering from devastating autoimmune diseases and cancers

Overview	▪ History: Founded in 2019 as spin out of GC Cell; San Diego based, 81 employees as of May 31, 2024 ▪ IP: Exclusive worldwide ex-APAC[1] rights to NK cell manufacturing and programs
Lead Program/ Focus: AlloNK in Autoimmunity	▪ Allogeneic, non-genetically modified, cryopreserved NK cell therapy used in combination with mAbs ▪ We believe our preliminary clinical data from Phase 1/2 trial of AlloNK + RTX in B-NHL provides readthrough to autoimmune disease: 62% Complete Response rate (CRR)[2] ▪ Phase 1/1b clinical trial of AlloNK + RTX/OBI in SLE/LN enrolling with first patient dosed in April 2024 and cleared DLT assessment period ▪ Basket IIT trial in multiple autoimmune diseases initiated
Manufacturing	▪ "Manufacturing-first" approach improving end-to-end process pioneered by GC Cell for >10 years ▪ Estimated < $6,000 COGS for AlloNK treatment in autoimmunity patients
Cash Position	▪ $62MM cash, cash equivalents and short-term investments as of March 31, 2024 ▪ Completed upsized IPO with $167MM of gross proceeds in July 2024

(1) APAC represents Asia, Australia and New Zealand.
(2) As of April 30, 2024 data cut off. Reflects preliminary data from our Phase 1/2 B-NHL clinical trial from patients not exposed to prior CAR-T with aggressive B-NHL (excludes 1 patient with MZL).

Well Positioned with Experienced Team and Scientific Advisors

Management Team

Fred Aslan, M.D.
CEO

vividion THERAPEUTICS
venrock

Chris Horan
CTO

Genentech
A Member of the Roche Group
Dermira

Jen Bush, J.D.
COO

organovo

Neha Krishnamohan
CFO, EVP Corp Dev

Goldman Sachs
KINNATE

Thorsten Graef, M.D., Ph.D.
CMO

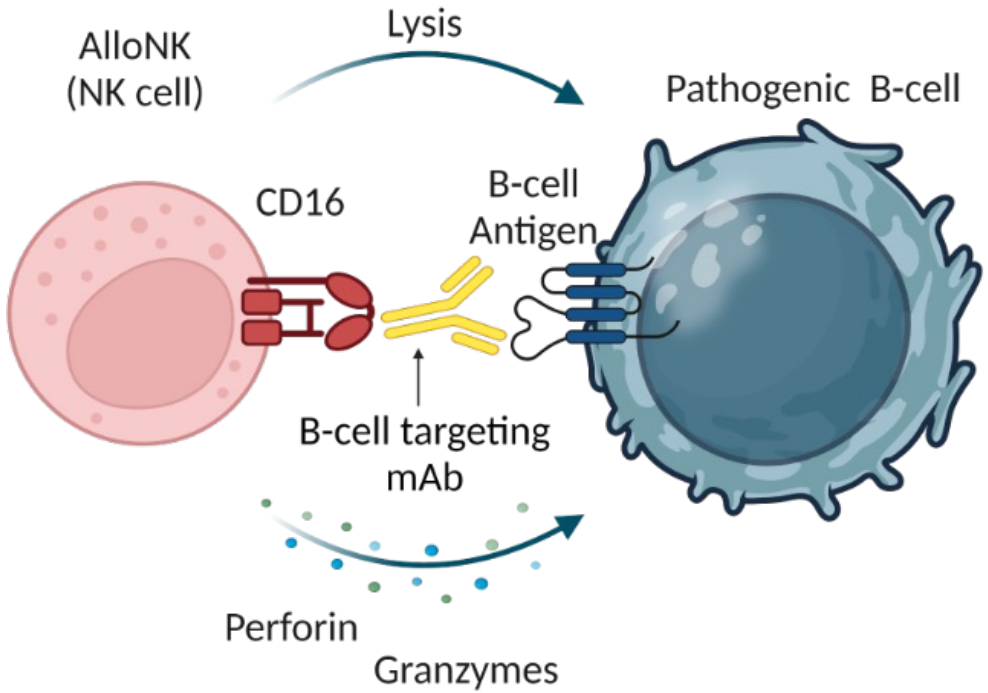
pharmacyclics
abbvie

Heather Raymon, Ph.D.
SVP, Research and Early Development

Celgene
Bristol Myers Squibb

Hypothesis: AlloNK in Combination with mAbs Has Potential to Drive Deep B-cell Depletion and Immune Reset

ADCC: mAbs recruit and activate NK cells for cell killing
(ADCC = antibody dependent cell-mediated cytotoxicity)



- **Clinical evidence of NK cells enhancing mAb activity**[1,2]
- Most efforts to **enhance ADCC** are focused on affinity to CD16
  Examples: obinutuzumab (GAZYVA)[3], multiple NK engagers[4]
- Lupus patients have < 50% CD16+ NK cells as healthy patients[5]
- ***AlloNK demonstrated ADCC Enhancement with CD19, CD20 and CD38 mAbs in Preclinical Studies***

(1) Klanova et al, Prognostic Impact of Natural Killer Cell Count in Follicular Lymphoma and Diffuse Large B-cell Lymphoma Patients Treated with Immunochemotherapy CCR-18-3270 August 2019.
(2) Musolino et. al. J Clin. Oncol. 2008 Apr 10;26(11): 1789-96.
(3) Goede et. al. ASH Annual Meeting Abstracts 2013:6..
(4) Affimed ICE technology.
(5) Lupus, 1993:2(4), 227-231.

Opportunity for Impactful Therapies in Autoimmune Disease

Learnings from Schett's auto-CAR-T Data

- Proposed MOA: B-cell depletion driving towards a potential immune reset
- Clinical improvements across sizeable indications
  - Differentiated from standard of care
  - Elimination / reduction of concomitant medications
- Significant unmet need with 6.8M prevalence for select B-cell driven autoimmune diseases in the United States and Europe[1]

Considerations

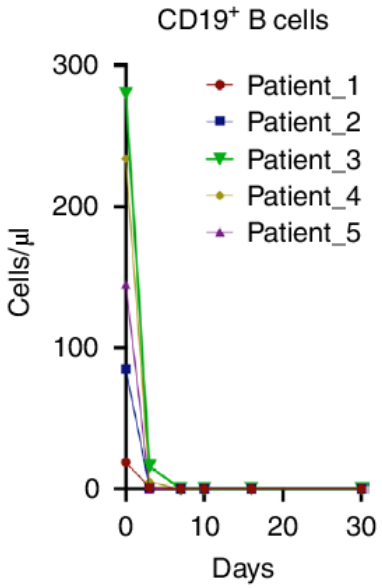
1. **Depth of B-cell Depletion**
   - "One-and-done" vs. chronic therapy
   - Maintenance meds
   - Durability
2. **Patient Access in Community Setting**
   - CRS-led hospitalizations
   - Utilization in community practices
3. **Manufacturing Scalability**
   - Capacity / scalability
   - COGS

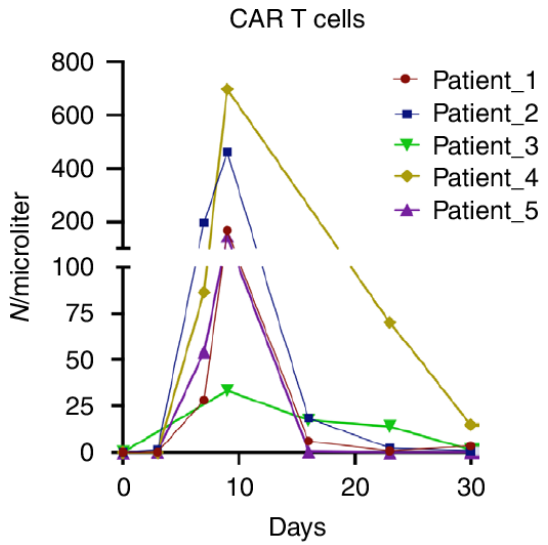
(1) Includes Rheumatoid Arthritis (RA), Multiple Sclerosis (MS) covers EU, ANCA Vasculitis, Systemic Sclerosis, Non-Lupus Nephritis Systemic Lupus Erythematosus (SLE) covers EU, Lupus Nephritis (LN), Myasthenia Gravis (MG), and Myositis.
Note: CRS: Cytokine release syndrome; CMC: Chemistry, Manufacturing and Control; COGS: Cost of goods sold.

AlloNK in Autoimmunity: Pursuing Similar Approach as Auto-CAR-T

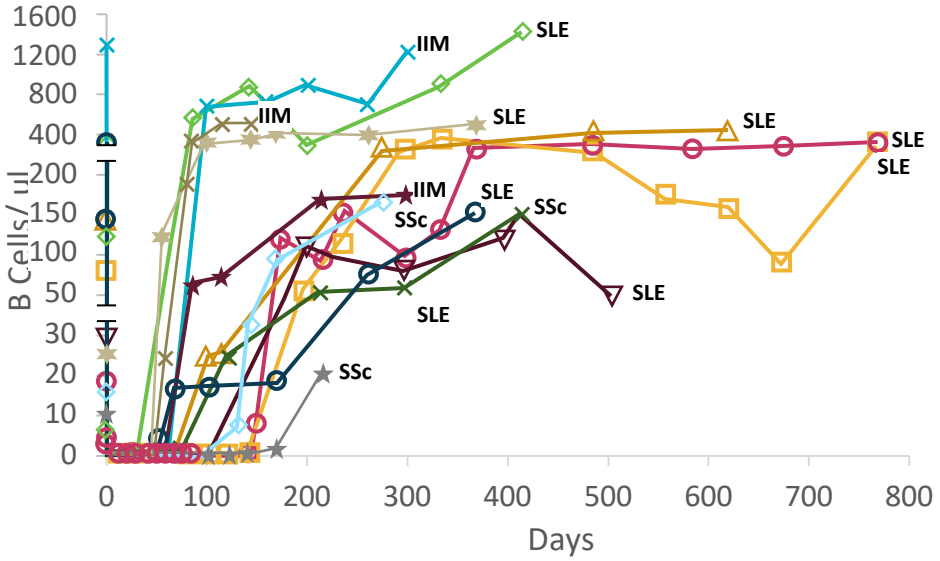
Schett: auto-CAR-T[2]

1 Initial, Generalized Lymphodepletion + 2 "Targeted / deeper" B-cell depletion





Activity in SLE / LN[1]
Immune Reset
B-cell Reconstitution with Naïve Cells



AlloNK

Similar CY/FLU regimen to drive substantial reduction in B-cells + 3 AlloNK + mAb injections over 18 days

Evaluation of activity and tolerability

(1) Systemic Lupus Erythematosus (SLE), Lupus Nephritis (LN).
(2) Mackensen et al 2022. Nature Medicine volume 28, 2124–2132.

Similarities in Proposed MoA between Autoimmune Disease and B-NHL

In autoimmune disease…

…B-cells produce auto-abs

B-cells found in primary lymphoid tissues (e.g., **bone marrow**), and in secondary lymphoid tissues (e.g., **spleen, lymph nodes, tonsils) -** *Source: NIH*

Proposed MoA for immune reset:

Deep B-cell depletion (targeting pathologic B-cells) in lymphoid **tissue and periphery**

In B-NHL…

…B-cells transform to cancer

B-NHL lesions found in **lymph nodes** and often in **bone marrow**, **spleen, and tonsils –** *Source: NCI*

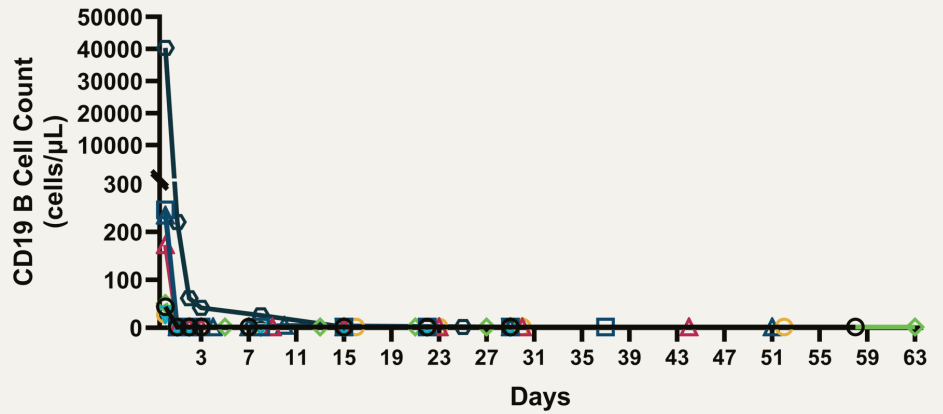
Proposed MoA for complete responses (CRs) in B-NHL:

Deep B-cell depletion (targeting transformed B-cells) in lymphoid **tissue and periphery**

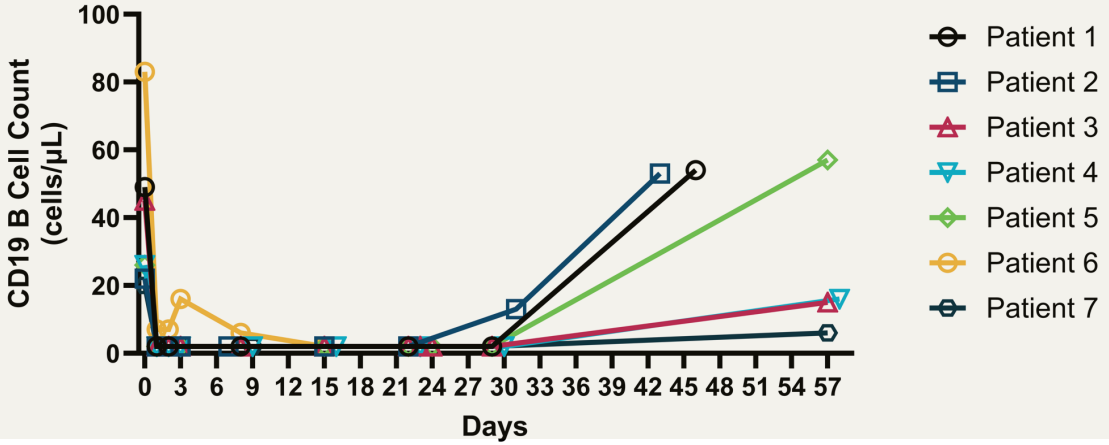
Peripheral B-cell Depletion Following First Cycle of AlloNK + Rituximab in Ongoing Phase 1/2 B-NHL Clinical Trial

- 45 patients with B-NHL treated in Phase 1/2 clinical trial
  - 16 patients in monotherapy (LD+AlloNK) and 29 patients in combination with rituximab
- Absence of peripheral B-cells observed in all 29 patients treated with LD + AlloNK + RTX (combination)[1]
  - All patients but one patient achieved non-quantifiable B-cell levels by Day 8 following start of therapy
  - The one patient achieved such levels by Day 15
- All patients with quantifiable B-cells at baseline who completed the first cycle are graphed on the right

LD + AlloNK + RTX B-cell depletion following first cycle (combination) [1]



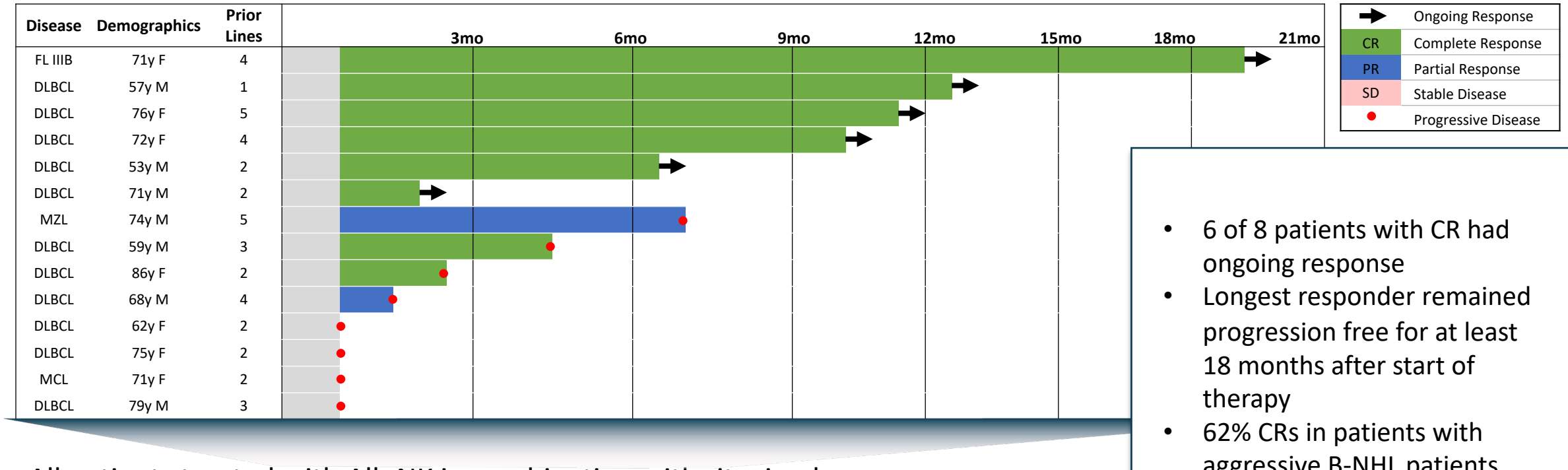
LD + AlloNK without RTX (monotherapy) – potential proxy for CY/FLU only[2]



Note: Lymphodepletion (LD)
[1] Preliminary data from Phase 1/2 B-NHL clinical trial as of March 26, 2024; Chart reflects data from patients where peripheral B-cells were detectable at baseline who completed the first cycle
[2] Preliminary data from Phase 1/2 B-NHL clinical trial as of May 15, 2024; Chart reflects data from patients where peripheral B-cells were detectable at baseline who completed the first cycle

High Response Rates of AlloNK in Combination with Rituximab in all Patients Naïve to prior CAR-T in Phase 1/2 B-NHL Clinical Trial

CAR-T naïve patients treated with AlloNK in combination with rituximab



- 6 of 8 patients with CR had ongoing response
- Longest responder remained progression free for at least 18 months after start of therapy
- 62% CRs in patients with aggressive B-NHL patients naïve to prior CAR-T[1]

All patients treated with AlloNK in combination with rituximab

	CAR-T naïve (n=14)	Received prior CAR-T (n=15)
ORR	**71%**	40%
CR	**57%**	27%

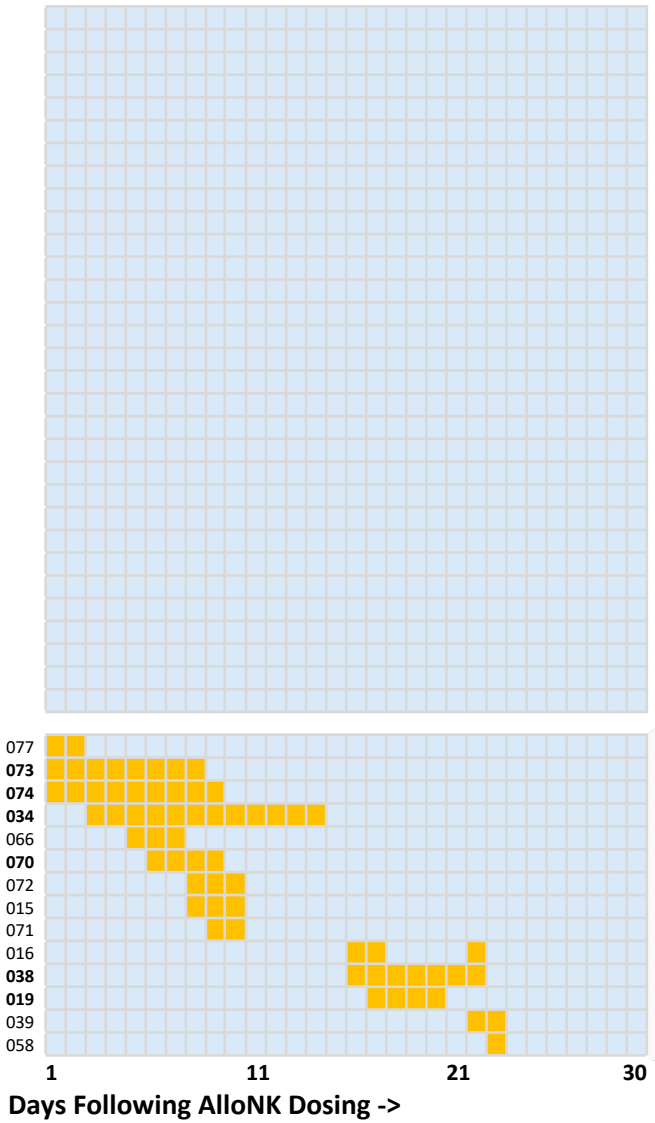
Note: As of April 30, 2024. Reflects data from patients not exposed to prior CAR-T.
(1) Excludes one patient with MZL.

AlloNK Interim Safety Data in 45 B-NHL Patients

Median Age of 68 y.o. and Median of 4 Prior Lines of Therapy

69%
Managed Outpatient
(Not Hospitalized) within 30 Days of Dosing AlloNK
(N = 31)

31%
Managed Inpatient
(Hospitalized) within 30 Days of Dosing AlloNK
(N = 14)



Each column represents one day
Each row represents one patient (n=45)

Patient IDs shown only for patients who required hospitalization

Data for Patients Hospitalized for more than 3 days

Patient ID	Age	Days Hospitalized	Reason for Hospitalization	Treatment
073	76	8	Gr 1 CRS resolved in 15 mins	ABX
074	71	9	Gr 2 Upper Respiratory infection	AV, Albuterol
034	70	12	Gr 3 FN, Parainfluenza, Gr 2 Staph	ABX, AF, GCSF
070	75	4	Gr 3 IRR	TYL
038	64	7	Gr 3 Sepsis	ABX
019	68	4	Gr 3 FN	ABX,AV,AF

ABX = antibiotics, AV = antivirals, AF = antifungals, TYL = acetaminophen

As of April 8, 2024. Reflects preliminary data from our Phase 1/2 B-NHL clinical trial.

Artiva's "Manufacturing-First" Approach

- GC Cell has been developing the process for over a decade
  - High yielding, reliable process platform
  - Over 35 clinical AlloNK batches have been produced

- Artiva's purpose-built facility in San Diego
  - 9,000sf multi-suite, cGMP compliant production up and running
  - Tech transfer complete, clinical manufacturing underway[1]
  - End-to-end clinical supply cold chain established:
    - From starting materials to the bedside
    - Cryopreserved in an infusion-ready media
    - Thawed at bedside, 5-10 min IV infusion

GC Cell Facility, Seoul, Korea

Artiva Facility, San Diego, USA

(1) Use in clinical trials pending submission to, and review by, FDA of data and other information supporting comparability of product candidate as manufactured at San Diego facility.

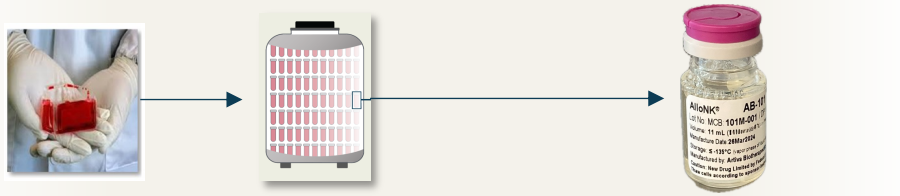
AlloNK's "3 Cs" in TechOps

CMC

- Extensive experience with AlloNK **> 35 clinical batches**
- Release testing performed on DP from **8 donor MCB's**
- Demonstrated both **batch-to-batch** and **donor-to-donor consistency**
- **IP protected** process

Simplicity and robustness

Capacity



1 UC unit = 50+ MCB units x 80-100+ DP vials/batch

Today: 1 UC unit = 4,000+ DP vials Ψ = 600+ pts*

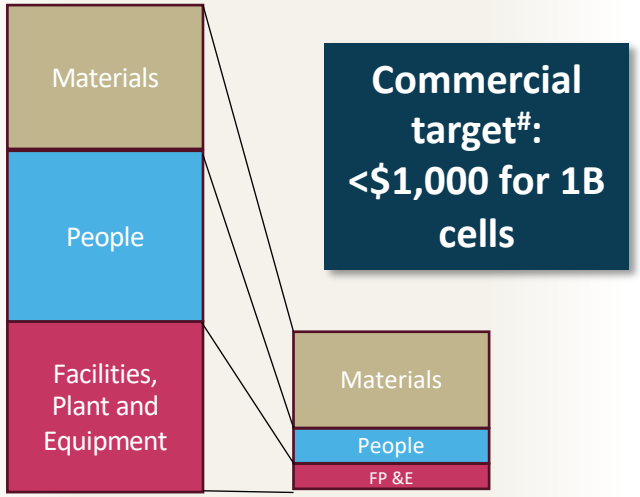
1 suite using 50L reactor
x 2 runs/ mo
x 100 DP vials/ batch
= 2,000 DP vials/ yr

Clinical scale: 3 suites = 1,000 pts/yr*

COGS

Scale today: Clinical COGS

Future scale: Commercial COGS



Commercial target#: <$1,000 for 1B cells

End-to-end cold chain logistics in place

Ψ 1 DP vial = 1 billion AlloNK cells. * Assumes 6B cells per patient.
Assumes 600 DP vials / run driven by larger bioreactor and other process improvements.
IP: Intellectual Property; MCB: Master Cell Bank; DP: Drug Product; CMC: Chemistry, Manufacturing and Control.

We Believe the Breadth and Versatility of AlloNK Enables the Potential to Expand into Many B-cell Driven Autoimmune Diseases

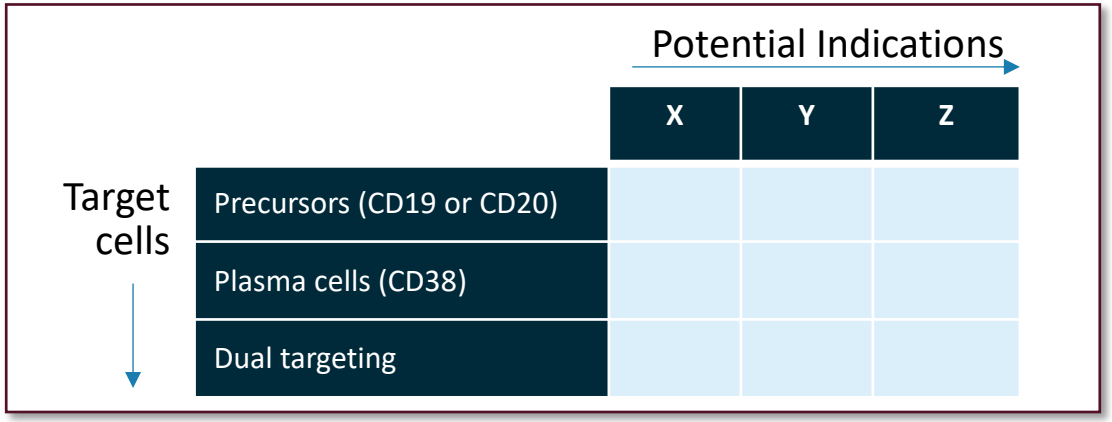
Breadth: Initial Indications

SLE / LN

Basket IIT in RA, AAV, SLE, PV in Community Setting

Versatility: Multiple mAbs

- **Different mAbs** can target **B-cells** versus plasma cells
- Emerging clinical data have shown **differentiated activity** in LN, MG, NMOSD, using **BCMA auto-CAR-T**

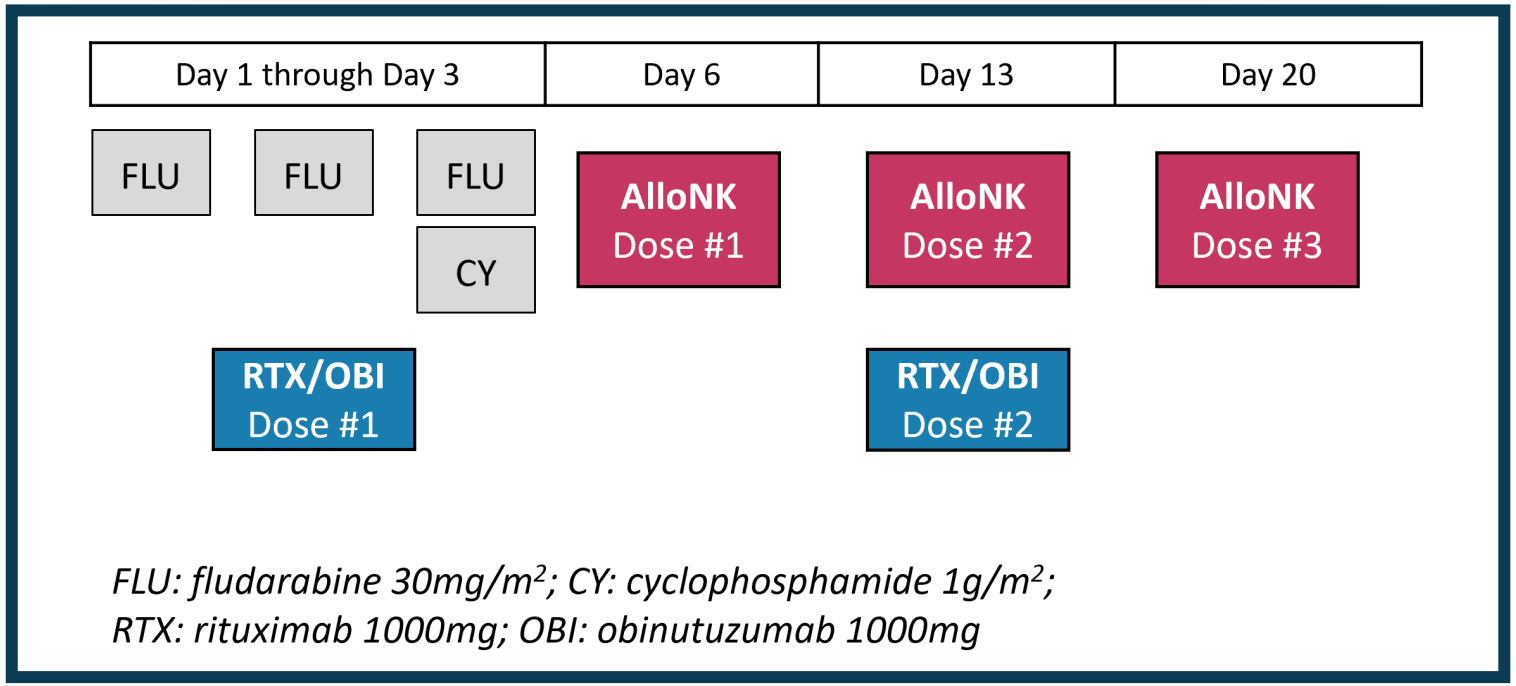


AlloNK demonstrated ADCC Enhancement with Multiple mAbs[1] in Preclinical Studies

Note: Lupus nephritis (LN), rheumatoid arthritis (RA), pemphigus vulgaris (PV), anti-neutrophil cytoplasmic antibody (ANCA) associated vasculitis (AAV), systemic lupus erythematosus (SLE), myasthenia Gravis (MG), neuromyelitis optica spectrum disorder (NMOSD), B-cell maturation antigen (BCMA), investigator-initiated trial (IIT).
(1) Rituximab (CD20), obinatuzumab (CD20), tafasitimab (CD19), daratumumab (CD38).

AlloNK Clinical Development: Treatment Schedule and Design in Phase 1/1b SLE / LN Trial

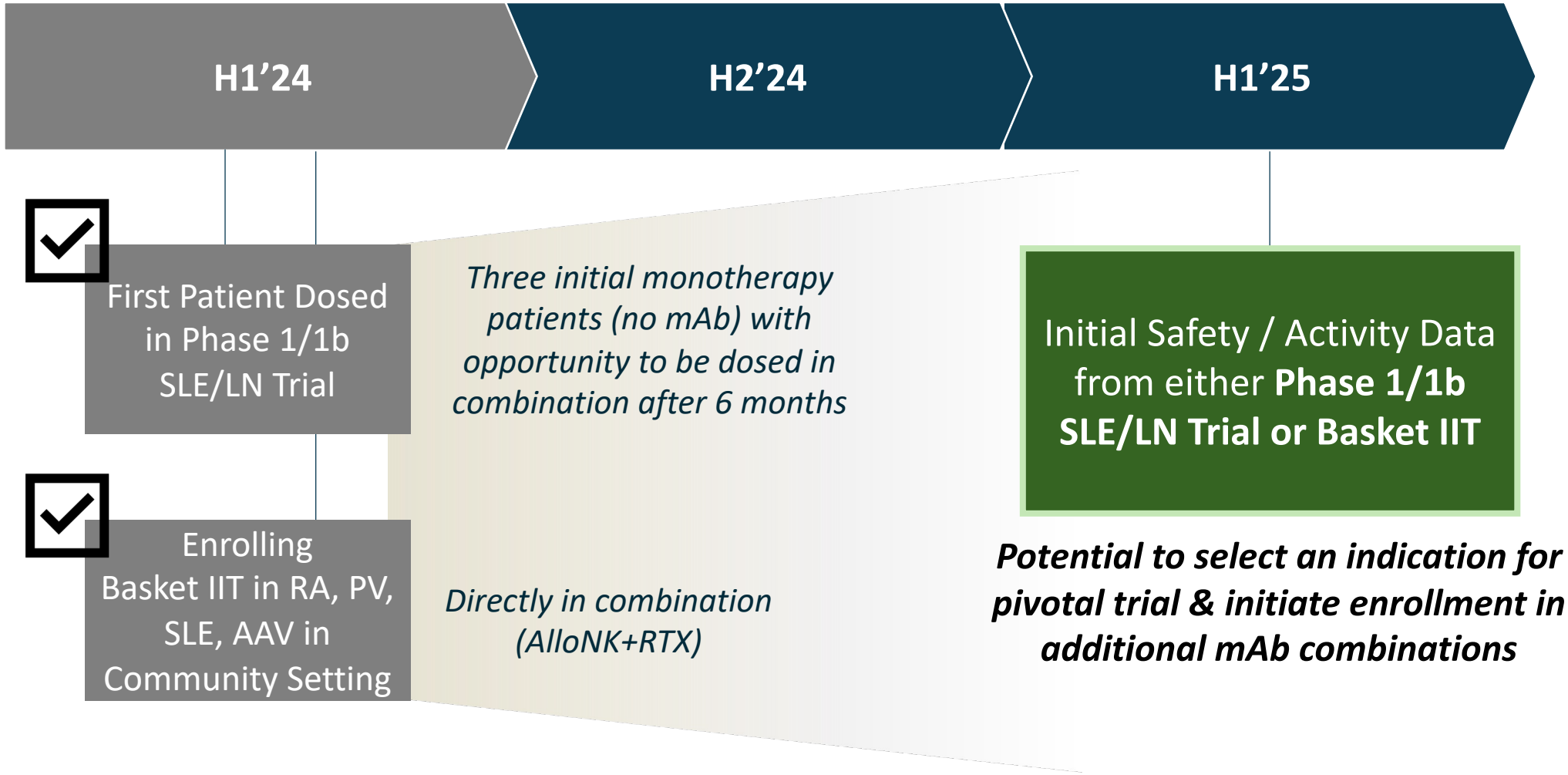
1 Initially, Generalized Lymphodepletion + 2 Goal: "Targeted / deeper" B-cell depletion



- Treatment schedule in Phase 1 / 1b SLE / LN Clinical Trial
- Reflects one cycle of treatment

- Enrolling patients in SLE / LN
- 2-Stage Trial
- Stage 1: Dose escalation
  - 3 initial monotherapy patients (no mAb) with opportunity to be dosed in combo after 6 months
  - 3+3 design; 3-6 patients per cohort
  - Ability to enroll RTX / OBI combination cohorts in parallel
  - AlloNK dosing starting at 1B, escalating to 4B cells / dose
- Stage 2: Dose Expansion up to 12 patients per cohort
- Opportunity for 2nd cycle at 6 months for patients who do not achieve a CRR

Focused Execution Leading to Expected Initial Data in 1H2025 from at Least One Ongoing Trial



AlloNK's Differentiated Approach

Drivers of commercial potential:

1. **Depth of B-cell Depletion**
   - Peripheral B-cell depletion in all 29 relapsed / refractory (R/R) B-NHL patients dosed with AlloNK + RTX[1]
   - Observed 62% CRs in R/R aggressive B-NHL patients with AlloNK + RTX[2]
   - Ability to combine AlloNK with mAbs targeting CD19, CD20 and/or CD38
2. **Patient Access in Community Setting**
   - Majority of patients not hospitalized[3]
   - Non-genetically modified cells have potential to reduce risk of secondary malignancies
3. **Manufacturing Scalability**
   - Improved end-to-end process pioneered by GC Cell for >10 years
   - Current scale can treat over 1,000 autoimmunity patients annually[4]
   - Estimated < $6,000 COGS for AlloNK treatment in autoimmunity patients[5]

AlloNK firsts[6]: NK cell therapy with IND cleared in autoimmunity in August 2023, FastTrack designation in autoimmunity, patient dosed in autoimmunity in US trial and basket trial in US

(1) Preliminary data from our Phase 1/2 B-NHL clinical trial as of March 26, 2024. All patients achieved non-quantifiable B-cell levels by Day 8 (except for one patient who achieved such B-cell depletion by Day 15) following start of therapy, regardless of levels at baseline.
(2) As of April 30, 2024 data cut off. Reflects preliminary data from our Phase 1/2 B-NHL clinical trial from patients not exposed to prior CAR-T with aggressive B-NHL (excludes 1 patient with MZL).
(3) As of April 8, 2024. Reflects preliminary data from our Phase 1/2 B-NHL clinical trial; Cytokine release syndrome (CRS), immune effector cell-associated neurotoxicity syndrome (ICANS); Three patients experienced a Grade 1 CRS and one patient experienced a Grade 2 CRS
(4) Assumes 6 billion cells per patient treatment.
(5) Assumes 6 billion cells per patient treatment, and commercial scale process utilizing 200L bioreactor.
(6) To our knowledge.

Focusing on Execution, Enrollment, and Community Access

Artiva: Many Firsts[1]

- **IND** allowed for any allogeneic NK cell therapy in autoimmunity
- **Fast Track** designation for any allogeneic NK cell therapy in autoimmunity
- Autoimmune **patient dosed** in US with allogeneic NK cell therapy
- Autoimmunity **basket trial** with IND allowed for any allogeneic NK cell therapy

Potential Enrollment Advantage

- ✓ Currently Auto-CAR-T in the US is typically constrained to FACT accredited sites
- ✓ Off-the-shelf product in outpatient setting potentially improved the number of of participating sites and patient preference

Potential Commercial Advantage

- ✓ Not capacity constrained like auto-CAR-T
- ✓ Safety profile potentially optimal for community use, less severe disease
- ✓ Driving COGS to <$6,000 per patient enabling pricing flexibility

(1) To our knowledge; receiving IND clearance and any special designations, such as Fast Track designation, does not guarantee an accelerated review of AlloNK or increase the likelihood of approval of AlloNK by the FDA.

Additional Information

Artiva's Pipeline: Focus on AlloNK in Autoimmune Diseases and Cancer

	Product Candidate	Indication	Preclinical	Phase 1	Phase 2	Phase 3	Partnerships
Artiva-funded Trials	**AlloNK** *(AB-101)* *ADCC-Enhancer*	▪ **SLE, LN**	**+ Rituximab + Obinutuzumab**				
		▪ **RA** ▪ **PV** ▪ **Vasculitis (GPA/MPA)** ▪ **SLE**	**Investigator-Initiated Basket Trial (1)**				
		▪ **NHL**	**+ Rituximab**				
Collaborator-funded Trials		▪ **HL**	**+ Acimtamig (2)**				AFFIMED
	CAR-NK *(AB-201)*	▪ **Solid tumors**	**HER2-CAR-NK**				GC Cell
	CAR-NK *(AB-205)*	▪ **Hematological malignancies**	**CD5-CAR-NK**				GC Cell

Note: Artiva holds ex-APAC rights to all programs.
Note: Lupus nephritis (LN), systemic lupus erythematosus (SLE), rheumatoid arthritis (RA), pemphigus vulgaris (PV), anti-neutrophil cytoplasmic antibody (ANCA) associated vasculitis (AAV), granulomatosis with polyangiitis (GPA) / microscopic polyangiitis (MPA), Non-Hodgkin lymphoma (NHL), Hodgkin lymphoma (HL).

(1) The IIT will initially enroll patients with RA, PV, GPA / MPA, and SLE.
(2) In November 2022, Affimed N.V. (Affimed) announced a collaboration with Artiva to advance development of the combination of acimtamig and AlloNK into a potential registration enabling study, LuminICE-203. In May 2023, Affimed announced the FDA clearance of the IND for the clinical study evaluating the combination of acimtamig and AlloNK in patients with relapsed or refractory Hodgkin lymphoma and CD30+ positive peripheral T-cell lymphoma and initiated enrollment into the study in October 2023.