

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): December 5, 2022

Nkarta, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

001-39370

(Commission File Number)

47-4515206
(IRS Employer
Identification No.)

6000 Shoreline Court, Suite 102
South San Francisco, CA
(Address of Principal Executive Offices)

94080
(Zip Code)

Registrant's Telephone Number, Including Area Code: (415) 582-4923

Not Applicable

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.0001 par value per share	NKTX	The Nasdaq Stock Market LLC (Nasdaq Global Select Market)

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item. 7.01 Regulation FD Disclosure.

On December 5, 2022, Nkarta, Inc. (the “Company”) issued a press release announcing positive updated clinical data from its Phase 1 dose escalation study of NKX019, which such data is discussed in more detail in Item 8.01 of this Current Report on Form 8-K. A copy of the press release is attached hereto as Exhibit 99.1 and incorporated by reference herein.

Also on December 5, 2022 and as previously disclosed, the Company hosted a conference call to discuss the foregoing updated clinical data. A copy of the slide presentation used during the Company’s conference call is attached hereto as Exhibit 99.2 and incorporated by reference herein.

The information in Item 7.01 of this Current Report on Form 8-K (including Exhibit 99.1 and Exhibit 99.2) shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liabilities of that section, nor shall it be, or be deemed, incorporated by reference in any filings under the Securities Act of 1933, as amended (the “Securities Act”), unless the Company specifically states that the information is to be considered “filed” under the Exchange Act or incorporates it by reference into a filing under the Securities Act or the Exchange Act.

Item. 8.01 Regulation FD Disclosure.

On December 5, 2022, the Company announced positive updated clinical data from its Phase 1 dose escalation study of NKX019 as monotherapy to treat patients with relapsed or refractory (“r/r”) B-cell malignancies.

The updated clinical data from the dose escalation portion of the Company’s NKX019 Phase 1 clinical trial demonstrate that NKX019 was well-tolerated across all dose levels evaluated and showed anti-tumor activity (as described below). There were no reports of dose limiting toxicity, cytokine release syndrome (“CRS”) higher than Grade 3, neurotoxicity/ICANS, or graft-versus-host disease in any of the nineteen patients treated to date. Transient myelosuppression, a manageable toxicity common with lymphodepletion, was the most common higher-grade toxicity reported on trial, regardless of relationship to NKX019. Five patients developed fever within eight hours of NKX019 infusion, and each case resolved within 24 hours. The efficacy data demonstrate that eight out of ten patients with non-Hodgkin lymphoma (“NHL”), including large B cell lymphoma (“LBCL”), responded to NKX019 as monotherapy for an overall response rate (“ORR”) of 80% at the 1 billion and 1.5 billion cell dose levels (the “Higher Dose Levels”). Seven of the ten responding patients with NHL in the Higher Dose Levels achieved a complete response (“CR”, 70%). As previously reported, four patients with NHL were treated at the lower dose of 300 million cells with an ORR of 50% and CR of 25%. Of the patients with leukemia treated with NKX019, three with acute lymphocytic leukemia and two with chronic lymphocytic leukemia, none achieved a response. The dose expansion portion of the Phase 1 clinical trial is currently open for enrollment. The dose expansion will investigate NKX019 as monotherapy both in patients with LBCL who have not previously received autologous CD19 CAR T therapy and in those who have previously received such therapy and will also investigate NKX019 as combination therapy with rituximab, an anti-CD20 monoclonal antibody, in patients with r/r NHL.

Interim data from clinical trials are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more data on existing patients become available. The clinical trial program is ongoing, and the final results may be materially different from those reflected in any interim data the Company reports. Further, others, including regulatory agencies, may not accept or agree with the Company’s assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and the value of the Company in general. In addition, the information the Company chooses to publicly disclose regarding a particular study or clinical trial is typically a summary of extensive information, and others may not agree with what the Company determines is the material or otherwise appropriate information to include in its disclosure, and any information the Company determines not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product, product candidate or business.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit Number	Description
99.1	Press Release issued on December 5, 2022.
99.2	Clinical Program Update Presentation, dated December 5, 2022.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Nkarta, Inc.

Date: December 5, 2022

By: _____
/s/ Alicia Hager
Alicia J. Hager, J.D., Ph.D.
Chief Legal Officer



Nkarta Announces Updated Clinical Data on Anti-CD19 Allogeneic CAR-NK Cell Therapy NKX019 for Patients with Relapsed or Refractory Non-Hodgkin Lymphoma

- *7 of 10 patients treated with NKX019 monotherapy at 1 billion and 1.5 billion CAR NK cells per dose achieved complete response (70% CR rate)*
- *5 CRs achieved across all dose levels after a single cycle (3 weekly doses) of NKX019 monotherapy; 3 partial responses deepened to CR with additional cycles*
- *Patients with CR observed across multiple NHL histologies, including LBCL*
- *Consolidation dosing administered to 7 patients with CRs with aim to eradicate residual tumor cells and prolong response*
- *Durable responses of greater than 6 months achieved in multiple patients*
- *Early safety profile supports outpatient administration and shows no neurotoxicity / ICANS, graft versus host disease (GvHD), or >Gr3 cytokine release syndrome (CRS)*
- *Recently opened dose expansion cohorts include NKX019 monotherapy in patients with LBCL that are CAR T naive or CAR T experienced, and NKX019 combination therapy with rituximab*
- *Conference call scheduled for today, December 5 at 8:00 a.m. ET*

SOUTH SAN FRANCISCO, Calif., Dec. 5, 2022 -- Nkarta, Inc. (Nasdaq: NKTX), a biopharmaceutical company developing engineered natural killer cell therapies to treat cancer, today announced positive updated data from its Phase 1 dose escalation study of NKX019 as monotherapy to treat patients with relapsed or refractory (r/r) non-Hodgkin lymphoma (NHL).

Seven of ten patients treated at the higher dose levels in a three-dose regimen showed a complete response (70% CR), including two patients with aggressive large B cell lymphoma (LBCL), one patient with mantle cell lymphoma (MCL), and one patient with marginal zone lymphoma (MZL). No dose limiting toxicity, neurotoxicity / ICANS, graft versus host disease (GvHD), or >Gr3 cytokine release syndrome (CRS) were observed in the study.

“NKX019 continues to demonstrate impressive single-agent activity, preliminary durability and an encouraging safety profile as an off-the-shelf, on-demand cell therapy for heavily pre-treated patients with NHL,” said Paul J. Hastings, President and CEO of Nkarta. “Based on this initial success, we recently opened dose expansion

cohorts to explore combination and single-agent regimens in patients with LBCL, an especially aggressive form of lymphoma, and to address the large unmet need in patients who have received prior autologous CAR T therapy. We remain committed to improved access for patients through the integration of cell therapy into the broader outpatient setting.”

Nkarta plans to provide updates from the NKX019 program, including data from the dose expansion cohorts, in 2023.

Evaluating NKX019 in r/r B cell malignancies

NKX019 is an allogeneic, cryopreserved, off-the-shelf cancer immunotherapy candidate that uses NK cells engineered to target the B-cell antigen CD19, a clinically validated target for B-cell cancer therapies. The NKX019 Phase 1 study is evaluating the safety and anti-tumor activity of NKX019 as a multi-dose, multi-cycle therapy in patients with r/r B cell malignancies.

As of November 28, 2022, 19 patients were enrolled and dosed. Fourteen patients entered the study with a diagnosis of non-Hodgkin lymphoma (NHL), 7 of which were aggressive large B cell lymphoma (LBCL). Patients had received a median of 4 prior lines of therapy (range of 2 to 10). To date, enrollment has included patients with aggressive disease characteristics and extensive lesions throughout the body. Patients were enrolled at clinical trial sites in Australia (13) and the United States (6).

“Autologous CAR T cell therapy has undeniably changed the NHL treatment landscape, but the possibility of severe toxicity and the limited access of these therapies leave many potentially eligible patients without a cellular therapy option,” said Michael Dickinson, M.D., Lead, Aggressive Lymphoma disease group, Clinical Haematology, Peter MacCallum Cancer Centre and Royal Melbourne Hospital, and investigator in the NKX019 trial. “In the data so far, NKX019 has shown encouraging anti-tumor activity, including in patients with aggressive histologies, who are the patients who are most in need.”

Safety in NKX019

NKX019 was well tolerated. No ICANS, GvHD, or >Gr3 CRS were observed in the study. No dose-limiting toxicities were observed. Five patients developed fever within 8 hours of NKX019 infusion, and each resolved within 24 hours. 2 of the 5 patients were assessed to have infusion-related reactions, 2 patients were assessed to have CRS, despite the rapid onset and rapid resolution not common in CRS, and one patient had both entities described in two separate cycles. The most common higher-grade adverse events were myelosuppression - a condition resulting in fewer red blood cells, white blood cells and platelets, which is common in this patient population post lymphodepletion. (See table 1.) The emerging safety profile of NKX019 is positively differentiated from those of many cell therapies.

NKX019 Safety (Table 1)

Grade 3/4 AEs in > 1 subject	Total (N=19)
Subjects with any ≥ Grade 3 AEs	16 (84%)
Neutrophil count decreased	12 (63%)
Platelet count decreased	8 (42%)
Febrile neutropenia	5 (26%)
Anemia	4 (21%)
WBC count decreased	3 (16%)
Lymphocyte count decreased	2 (11%)

Clinical Activity in NKX019

Nineteen patients who received NKX019 were assessed (See table 2). In the two highest dose cohorts (1 B cells x 3 and 1.5 B cells x 3), 8 out of 10 patients with NHL achieved an objective response (80% ORR) and 7 out of 10 achieved a complete response (70% CR). 5 of 6 patients with NHL in the cohort receiving 3 doses of 1 billion cells achieved a response (83% ORR), and 4 of 6 achieved a complete response (67% CR rate). 3 of 4 patients with NHL in the cohort receiving 3 doses of 1.5 billion cells achieved a response (75% ORR) and a complete response (75% CR). For all cohorts in the dose finding portion (300 M cells x 3, 1 B cells x 3, and 1.5 B cells x 3), 10 of 14 patients with NHL achieved an objective response (71% ORR) and 8 of 14 achieved a complete response (57% CR). 3 patients with ALL and 2 patients with CLL were treated, with no response observed.

NKX019 Clinical Activity (Table 2)

	300 M cells x 3		1 B cells x 3		1.5 B cells x 3	
	ORR (CR, PR)	CR	ORR (CR, PR)	CR	ORR (CR, PR)	CR
All NHL	2/4 (50%)	1/4 (25%)	5/6 (83%)	4/6 (67%)	3/4 (75%)	3/4 (75%)
LBCL [#]	1/3	0/3	1/2	1/2	1/2	1/2
MCL	-	-	1/1	1/1	-	-
FL	1/1	1/1	2/2	1/2	2/2	2/2
MZL	-	-	1/1	1/1	-	-
Leukemia						
ALL	0/1 (0%)	0/1 (0%)	0/2 (0%)	0/2 (0%)	-	-
CLL	-	-	-	-	0/2 [1/2 SD]	0/2

[#]LBCL includes DLBCL and FL3b

ALL: acute lymphoblastic leukemia; CLL: chronic lymphocytic leukemia; CR: complete response; FL: follicular lymphoma; LBCL: large B-cell lymphoma; MCL: mantle cell lymphoma; MZL: marginal zone lymphoma; NHL: non-Hodgkin lymphoma; ORR: overall response rate; PR: partial response

About the NKX019 Clinical Trial

NKX019 is an allogeneic, cryopreserved, off-the-shelf cancer immunotherapy candidate that uses natural killer (NK) cells engineered to target the B-cell antigen CD19, a clinically validated target for B-cell cancer therapies. The dose-finding portion of the NKX019 Phase 1 study evaluates the safety and anti-tumor activity of NKX019 as a multi-dose, multi-cycle monotherapy following lymphodepletion in patients with r/r B-cell malignancies. Patients must have received at least two prior therapies. Patients that received prior autologous CAR-T therapy were not eligible.

Patients in the NKX019 trial received a cycle of treatment consisting of lymphodepletion with 3 days of fludarabine and cyclophosphamide followed by NKX019 cells in a three-dose regimen where cells were given on Days 0, 7, and 14. Patients received doses of 300 million, 1 billion, or 1.5 billion cells three times in a cycle. Based on tumor response and tolerability assessment, patients are eligible to receive additional treatment cycles, including patients with progressive disease to observe whether NKX019 can reverse progression. Disease assessment was performed by investigator review according to the 2014 Lugano response criteria for patients with NHL and NCCN response criteria for patients with ALL.

The dose-expansion portion of the Phase 1 clinical trial of NKX019 will investigate NKX019 as combination therapy with rituximab, an anti-CD20 monoclonal antibody, in patients with r/r non-Hodgkin lymphoma, as well as NKX019 as monotherapy in patients with large B-cell lymphoma (LBCL) who previously received autologous CD19 CAR T-cell therapy. The dose expansion will also further investigate NKX019 as monotherapy in patients with LBCL who have not previously received autologous CD19 CAR T-cell therapy.

Conference Call Information

Nkarta management will discuss the NKX019 results on Monday, December 5, 2022, at 8:00 a.m. ET. To access the live webcast, please register online on the Investors section of Nkarta's website: <https://ir.nkartatx.com/events-and-presentations>. An archived webcast and accompanying slides will be available on the Company's website approximately two hours after the event.

About NKX019

NKX019 is an allogeneic, cryopreserved, off-the-shelf cancer immunotherapy candidate that uses natural killer (NK) cells derived from the peripheral blood of healthy adult donors. It is engineered with a humanized CD19-directed CAR for enhanced tumor cell targeting and a proprietary, membrane-bound form of interleukin-15 (IL-15) for greater persistence and activity without exogenous cytokine support. CD19 is a biomarker for normal and malignant B cells, and it is a validated target for B cell cancer therapies. To learn more about the NKX019 clinical trial in adults with advanced B cell malignancies, please visit ClinicalTrials.gov.

About Nkarta

Nkarta is a clinical-stage biotechnology company advancing the development of allogeneic, off-the-shelf natural killer (NK) cell therapies for cancer patients. By combining its cell expansion and cryopreservation platform with proprietary cell engineering technologies and CRISPR-based genome engineering capabilities, Nkarta is building a pipeline of future cell therapies engineered for deep anti-tumor activity and intended for broad access in the outpatient treatment setting. For more information, please visit the company's website at www.nkartatx.com.

Forward-looking statements

Forward-looking statements include, among others, statements of Nkarta's future expectations, plans and prospects. These may include statements concerning Nkarta's expectations regarding any or all of the following: the therapeutic potential of NKX019, as a monotherapy and/or in combination with rituximab, for the treatment of B-cell malignancies, including NHL; the tolerability and safety profile of NKX019; the accessibility and potential outpatient administration of NK cell therapies, including NKX019; plans and timelines for the continued and future clinical development of NKX019; and plans and timelines for the availability or future presentation of NKX019 clinical data. These forward-looking statements are based on current information, assumptions and expectations that are subject to change and involve a number of risks and uncertainties that may cause actual results to differ materially from those contained in the forward-looking statements.

Interim data from clinical trials are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more data on existing patients become available. The clinical trial program is ongoing, and the final results may be materially different from those reflected in any interim data we report. Further, others, including regulatory agencies, may not accept or agree with Nkarta's assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and the value of the company in general. In addition, the information Nkarta chooses to publicly disclose regarding a particular study or clinical trial is typically a summary of

extensive information, and you or others may not agree with what Nkarta determines is the material or otherwise appropriate information to include in Nkarta's disclosure, and any information Nkarta determines not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product, product candidate or business.

These and other risks and uncertainties are described more fully in Nkarta's filings with the Securities and Exchange Commission ("SEC"), including the "Risk Factors" section of Nkarta's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, filed with the SEC on November 9, 2022, and Nkarta's other documents subsequently filed with or furnished to the SEC. All forward-looking statements contained in this press release speak only as of the date on which they were made. Except to the extent required by law, Nkarta undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they were made.

Nkarta Media/Investor Contact:

Greg Mann

Nkarta, Inc.

gmann@nkartatx.com

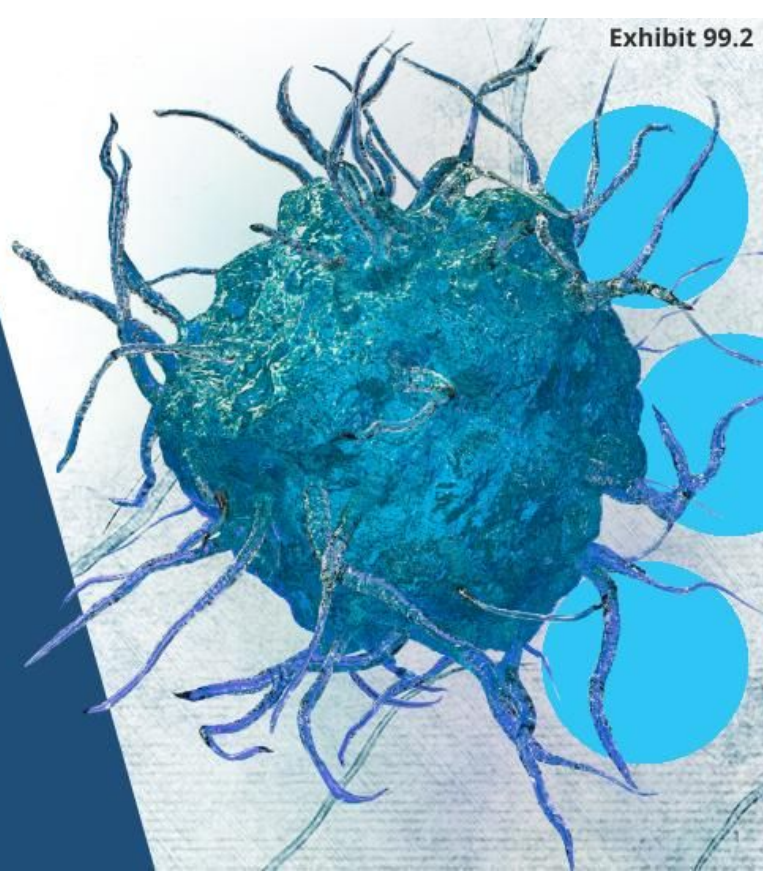
nkarta

NEXT GENERATION

Natural Killer Cells

Engineered to Beat Cancer

5 December 2022



Forward-looking statements

This presentation contains forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, regarding future events and the future results of the company that are based on current expectations, estimates, forecasts, and projections about the industry in which the company operates and the future of our business, future plans and strategies, projections, anticipated trends and events, the economy, and other future conditions, and the beliefs and assumptions of the management of the company. Words such as "address," "anticipate," "believe," "consider," "continue," "develop," "estimate," "expect," "further," "goal," "intend," "may," "plan," "potential," "project," "seek," "should," "target," "will," variations of such words, and similar expressions are intended to identify such forward-looking statements. Such statements reflect the current views of the company and its management with respect to future events and are subject to inherent risks, uncertainties, and changes in circumstances that are difficult to predict and may be outside our control. Therefore, you should not rely on any of these forward-looking statements. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, the company's actual results, performance, or achievements could differ materially from the results expressed in, or implied by, these forward-looking statements. Please see section entitled "Risk Factors" in our annual, quarterly and other filings with the Securities and Exchange Commission for a description of these risks and uncertainties.

This presentation has been prepared by the company based on information it has obtained from sources it believes to be reliable. Summaries of documents contained in this presentation may not be complete. The company does not represent that the information herein is complete. The information in this presentation is current only as of the date on the cover, and the company's business or financial condition and other information in this presentation may change after that date. The company undertakes no obligation to update any forward-looking statements in order to reflect any event or circumstance occurring after the date of this presentation or currently unknown facts or conditions.

Interim data from clinical trials are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more data on existing patients become available. The clinical trial program is ongoing, and the final results may be materially different from those reflected in any interim data the company reports. Further, others, including regulatory agencies, may not accept or agree with the company's assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and the value of the company in general. In addition, the information the company chooses to publicly disclose regarding a particular study or clinical trial is typically a summary of extensive information, and you or others may not agree with what the company determines is the material or otherwise appropriate information to include in its disclosure, and any information the company determines not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product, product candidate or business.

CAR NK cells driving a revolution in off-the-shelf cell therapy

Next generation platform built for:

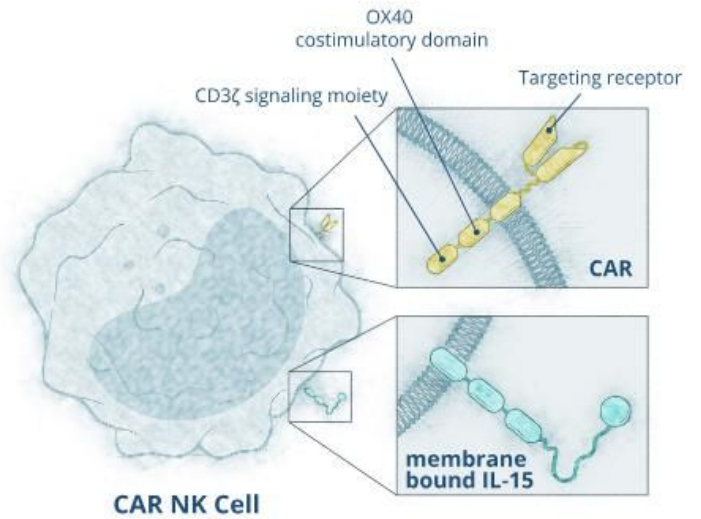
Blood cancers and solid tumors

Allogeneic, off-the-shelf, and on demand

Industrialized manufacturing

Outpatient administration

nkarta



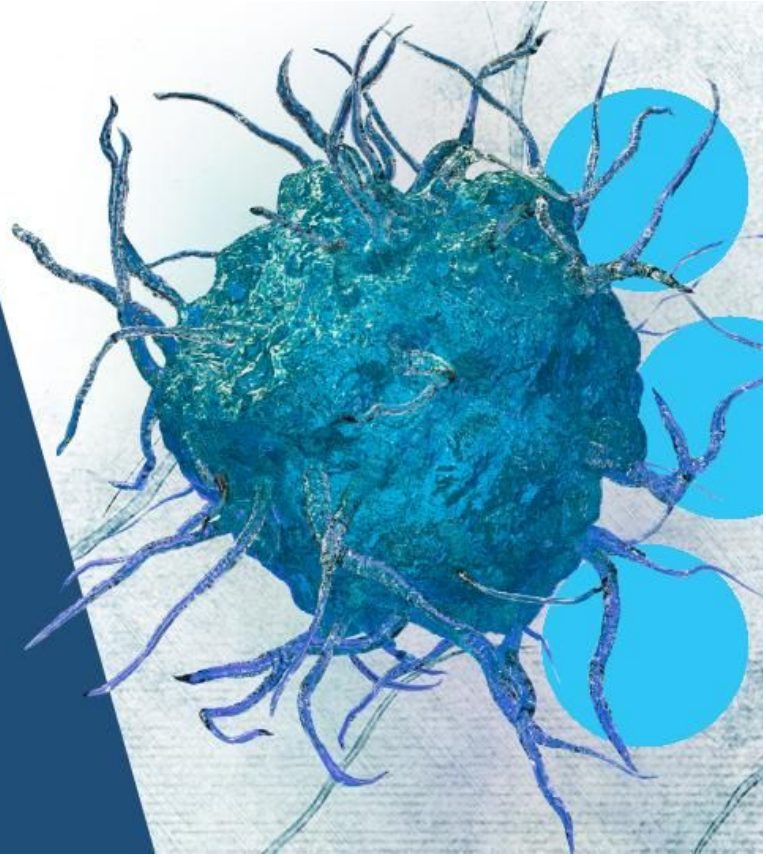
NKX019: Key topics for discussion

- **Best response for 6 additional patients treated since April update**
- **Follow-up on patients from April update, including multiple patients with durability beyond 6 months**
- **Tolerability and clinical impact of additional cycles of NKX019**
 - Deepening
 - Consolidation
 - Retreatment
- **Outpatient administration in multiple patients**
- **Opening of dose expansion cohorts**

nkarta

NKX019 for the Treatment of Relapsed / Refractory B-Cell Malignancies

Clinical Data as of 28 November 2022



Autologous CAR T-cell therapy has set the bar for cellular therapies in relapsed / refractory NHL but has limitations

- **CAR T-cell therapy is not accessible to most patients with NHL**
 - Only 20-30% of patients with LBCL that can benefit from cell therapy receive it
- **Potential for toxicity requires close proximity to an intensive care unit**
 - Need for specialized sites as >25% of patients require ICU care
 - Grade 3+ CRS: 13 to 49%, Grade 3+ ICANS / neurotoxicity: 18 to 31%
- **Only 30-40% of patients with LBCL treated with CAR T-cell therapy have 6-month CR**
 - No ability to re-dose for incomplete response
 - Outcomes among those that relapse is poor

NKX019 for B-cell malignancies: A multicenter, open-label, phase 1 study

Key Inclusion Criteria

- r/r CD19+ B-cell malignancies
- Received ≥2 prior lines of therapy
- ECOG PS 0 or 1
- CAR T-cell therapy naïve (dose-finding phase)

Endpoints:

- Safety and tolerability
- Anti-tumor activity
- Pharmacokinetics

NCT05020678

Lymphodepletion

- Cyclophosphamide 300 mg/m²/day IV (dose-finding phase)
- Fludarabine 30 mg/m²/day IV



- Multiple cycles allowed to **deepen response** for subjects tolerating and benefiting from treatment
- Subjects in **CR** may receive additional cycle as **consolidation**

Post-treatment follow-up

Subjects with initial clinical benefit and subsequent progression may receive **retreatment**

Patients who were treated with NKX019 were heavily pre-treated and had a poor prognosis

	Total (N=19)
Age, median (range)	59 (21-82)
Baseline ECOG PS 1	13
Australia/US	13/6
Diagnosis	
Large B cell lymphoma (LBCL)#	7
IPI 3+	3 (43%)
Follicular lymphoma (FL)	5
FLIPI high risk	3 (60%)
Marginal zone lymphoma (MZL)	1
Mantle cell lymphoma (MCL)	1
Chronic lymphocytic leukemia (CLL)	2
B-cell acute lymphoblastic leukemia (B-ALL)	3
Prior lines of therapy, median (range)	4 (2 - 10)

#LBCL includes 6 DLBCL and 1 FL3b.



7 of 14 patients with NHL had aggressive LBCL



Median lines of prior therapy

NKX019 was well-tolerated up to 1.5 B cells / dose

- No ICANS / neurotoxicity, GVHD, Grade 5 or dose-limiting toxicities
- One (5%) Grade ≥ 3 infection
- No treatment-related AEs leading to discontinuation of NKX019
- Myelosuppression, consistent with standard lymphodepletion, was the most common Grade ≥ 3 toxicity and manageable

Grade 3/4 AEs in >1 subject	Total (N=19)
Subjects with any \geq Grade 3 AEs	16 (84%)
Neutrophil count decreased	12 (63%)
Platelet count decreased	8 (42%)
Febrile neutropenia	5 (26%)
Anemia	4 (21%)
WBC count decreased	3 (16%)
Lymphocyte count decreased	2 (11%)

Treatment-emergent AEs regardless of relationship.

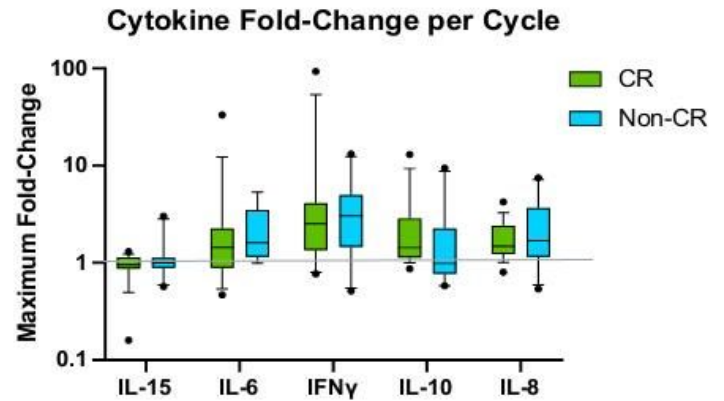
A minority of patients experienced transient and manageable infusion-related effects

- **5/19 patients (26%) developed fever within 8 hours that resolved within 24 hours**
 - In contrast, CAR T-cell therapy-associated CRS has a median onset of 2-5 days and a median duration of 5-8 days
 - Grade 1/2 infusion-related reactions (IRR) listed as expected side effect in Investigator’s Brochure
- **No apparent association between symptoms and response**

Patient	Grade*	Investigator assessment	Anti-IL-6 therapy	Steroids	Description of event
#1	G1	IRR	N	N	Fever within 8 hours; resolved with antipyretics and did not recur
#2	G1	IRR	N	N	Fever within 5 hours; resolved with antipyretics and did not recur
#3	G2	CRS	N	N	Fever and hypotension within 8 hours; resolved with antipyretics and did not recur
	G1	CRS	N	N	Fever within 6 hours; resolved with antipyretics and did not recur
#4	G3	CRS	Y	Y	Fever and hypoxia within 5 hours; fever resolved within 24 hours and did not recur
	G1	IRR	N	N	Tachycardia (no fever) within 3 hours; resolved within 24 hours without intervention
#5	G1	IRR	N	N	Tachycardia (no fever) within 3 hours; resolved within 24 hours without intervention
	G2	CRS	Y	N	Fever with hypotension and hypoxia within 6 hours; symptoms resolved within 24 hours after treatment and did not recur

Cytokine elevation was generally modest across all patients

- **Peak IL-6, IFN γ , IL-10, and IL-8 levels were marginally above baseline throughout treatment for most patients**
 - Severe (Grade > 3) CRS in those receiving CAR T-cell therapies is generally associated with ~100-fold changes of multiple serum cytokines
 - No Grade > 3 CRS observed to date with NKX019
- **No association was observed between elevated serum cytokines and clinical response**



NKX019 showed monotherapy activity across multiple histologies

8/10 ORR (80%), including 7/10 CRs (70%) observed at higher dose levels in NHL

	300 M Cells × 3 Doses		1 B Cells × 3 Doses		1.5 B Cells × 3 Doses	
	ORR (CR, PR)	CR	ORR (CR, PR)	CR	ORR (CR, PR)	CR
All NHL	2/4	1/4	5/6 (83%)	4/6 (67%)	3/4 (75%)	3/4 (75%)
LBCL [#]	1/3	0/3	1/2	1/2	1/2	1/2
MCL	-	-	1/1	1/1	-	-
FL	1/1	1/1	2/2	1/2*	2/2	2/2
MZL	-	-	1/1	1/1	-	-
Leukemia	0/1	0/1	0/2	0/2	0/2	0/2
ALL	0/1	0/1	0/2	0/2	-	-
CLL	-	-	-	-	0/2 [1/2 SD]	0/2

* PR deepened to CR since April 2022

New since April 2022

[#]LBCL includes DLBCL and FL3b.

ALL: acute lymphoblastic leukemia; CLL: chronic lymphocytic leukemia; CR: complete response; DLBCL: diffuse large B-cell lymphoma; FL: follicular lymphoma; FL3b: follicular lymphoma grade 3b; LBCL: large B-cell lymphoma; MCL: mantle cell lymphoma; MZL: marginal zone lymphoma; NHL: non-Hodgkin lymphoma; ORR: overall response rate; PR: partial response.

NKX019 monotherapy elicited complete responses with early durability across NHL histologies; most responses occurred after a single cycle

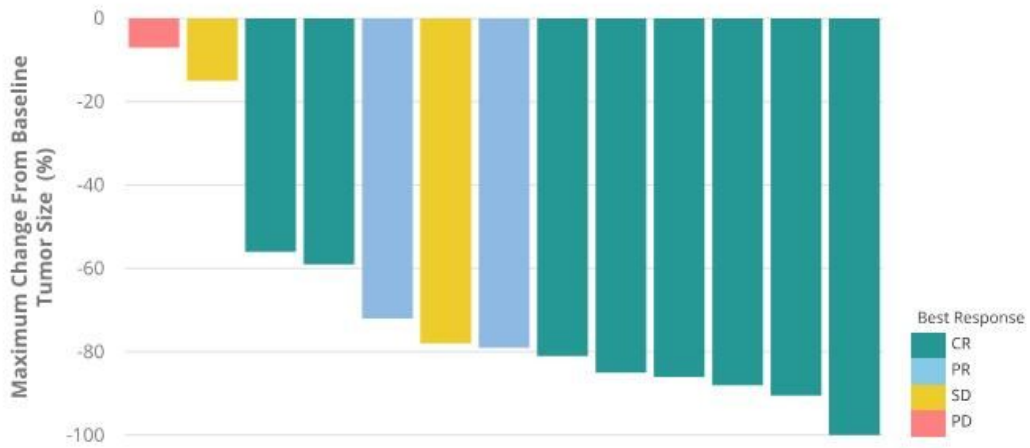


8 patients achieved CR with NKX019 monotherapy

- 5 after a single cycle
- 3 with PR deepened to CR with additional cycles
- 7 received consolidation cycle

Retreatment planned with 1.5 B dose for 3 patients

Nearly every patient with NHL treated with NKX019 experienced tumor reduction



Notes:

1. Tumor size is calculated as sum of the product of the perpendicular diameters (SPD).
 2. One patient discontinued due to clinical progression without SPD assessment.
 3. One patient did not have any target lesions. The SPD was calculated based on measurable non-target lesions.
- CR: complete response; NHL: non-Hodgkin lymphoma; PD: progressive disease; PR: partial response.

Higher peak concentrations of NKX019 correlated with complete responses and higher doses of NKX019

- Higher cell doses correlated with higher peak measured concentration (C_{max})
- Peak concentration trended higher in patients achieving CR

Dose Level	C_{max}	All subjects	CR	Non-CR
300 M cells	n	5	1	4
	Median (range)	< 6.7 (< 6.7-393)	393 (393)	< 6.7 (< 6.7-234)
1 B/1.5 B cells	n	14	7	7
	Median (range)	156.9 (< 6.7-567.0)	298 (< 6.7-567.0)	< 6.7 (< 6.7-481)

6.7 = Lower limit of quantification
 C_{max} given as transgene copies/ μ g of DNA.

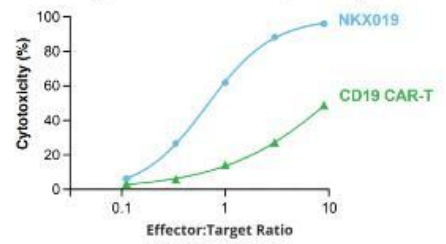
On demand availability of NKX019 facilitated successive treatment cycles and outpatient administration

- **Successive rounds of NKX019 are feasible and effective at achieving clinical responses**
 - Median interval between treatment cycles was 8 days
 - Lymphodepletion was given at the beginning of each 28-day cycle of therapy and was well-tolerated
- **40% of eligible patients received NKX019 in the outpatient setting after first cycle**
 - Mandatory 24-hour admission after each dose in the first cycle
 - Increased outpatient utilization observed with increased experience

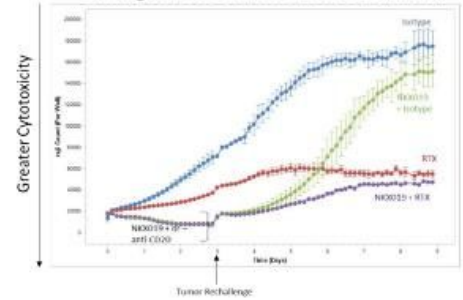
NKX019 expansion cohorts are now open, each using 1.5 B cell dose and updated lymphodepletion

- **CAR T-cell therapy-naïve LBCL cohort**
 - Improved access and favorable safety profile
 - Comparable CR rate to autologous CAR T
- **CAR T-cell therapy-experienced LBCL cohort**
 - CD19 expression persists in >90% of those who fail CAR T-cell therapy; outcomes for these patients are poor¹
 - NKX019 offers NK-driven cytotoxicity and superior sensitivity to CD19 antigen²
- **Rituximab combination cohort**
 - Dual antigen targeting through ADCC and improved anti-tumor activity of NKX019³
 - CAR T-naïve and CAR T-experienced

NKX019 has greater cytotoxicity than CAR T₂ cells against a low CD19 expressing cell line



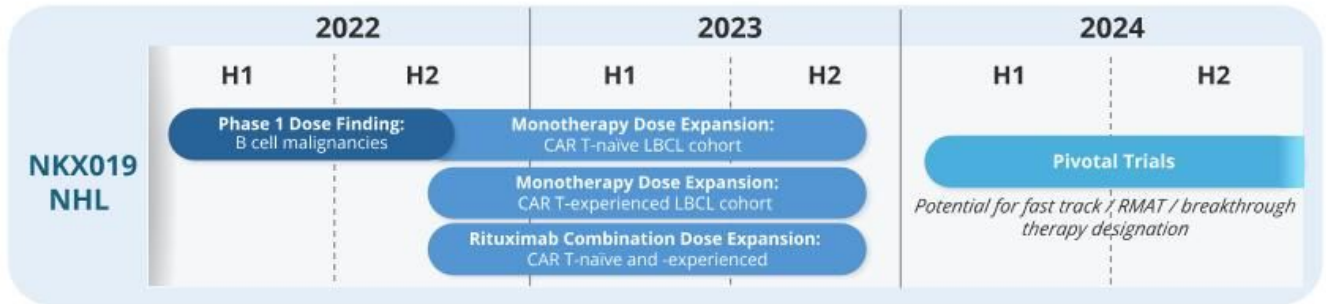
NKX019 has enhanced tumor cell killing when combined with rituximab³



1. Tomas, et al. *Leukemia* 2022; 2. Dickinson, et al. *ASH* 2021; 3. Thome, et al. *SITC* 2022. ADCC: antibody-dependent cell-mediated cytotoxicity; CAR: chimeric antigen receptor; CR: complete response; LBCL: large B-cell lymphoma.

Clinical data strengthen Nkarta's position in the NHL therapeutic landscape

- **NKX019 remains on track for potential registration-enabling studies**
 - Allogeneic and off-the-shelf cell therapy to improve patient access
 - Evaluation of monotherapy activity as well as in combination with rituximab
- **Strong cash position: \$395 million as of September 30, with runway into 2025**



NKX019 is an accessible, off-the-shelf CAR NK cell therapy with encouraging activity and safety profile

- **Building on earlier data, NKX019 monotherapy continues to be well-tolerated with promising anti-tumor activity**
 - Six additional patients with r/r NHL have been treated since prior data cut-off
 - Earlier reported PR deepened to CR
 - CR rate improved to 70% from previous update of 50%
- **On-demand availability for administration in the outpatient setting**
- **No DLTs, ICANS, GVHD, or Grade > 3 CRS**
- **At highest dose levels, 8 of 10 patients with NHL responded (80% ORR), and 7 of 10 patients achieved complete responses (70% CR)**
 - CRs observed in multiple NHL histologies, including 50% CR in LBCL
 - Nearly every patient with NHL treated with NKX019 had tumor reduction
 - Deepening of response and consolidation of CR achieved with multiple cycles
 - Potential for retreatment should tumor recur
- **Deep responses with durability exceeding 6 months in multiple patients**
- **Expansion cohorts now open for enrollment**