Clinical Stage CAR-T for AL Amyloidosis and Select Immune-Mediated Diseases

November 2024



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#### Immix Biopharma Highlights



NXC-201: The only CAR-T in AL amyloidosis

- NXC-201 could transform the treatment of Relapsed/Refractory AL amyloidosis (US patients: ~33,000 prevalence, ~4,300 annual incidence, \$3bn market)
- Ex-US NXC-201 study: 69% (9/13) Complete response rate in relapsed/refractory AL Amyloidosis in the largest CAR-T clinical study to-date
- NEXICART-2 US potentially pivotal 40 patient clinical trial initiated mid-2024

Clinical profile ideal for select immune-mediated diseases

- Established clinical profile across large 76 patient dataset dosed with NXC-201: well-suited to treat select immune-mediated diseases
- Short duration of cytokine release syndrome
- Lack of neurotoxicity

Sterically-optimized, proprietary CAR-T construct

- N-GENIUS platform produced NXC-201, our lead, sterically-optimized CAR-T
- NXC-201 CART construct provides barrier to entry: 3 key CAR modifications drive unique clinical profile - CD3ζγ, CD8 hinge, COBRA binder
- NXC-201 engineered specifically to solve for CAR-T tolerability (cytokine release syndrome, neurotoxicity)

## Significant Near-Term Milestones



Upcoming Milestones	Anticipated Timing
Initial NEXICART-2 clinical data presentation in AL Amyloidosis	4Q 2024
Report interim clinical data readout for NEXICART-2 trial in AL Amyloidosis	2Q/3Q 2025
Report NXC-201 interim clinical data in 2 unaddressed immune-mediated diseases	4Q 2025
Report final topline clinical data readout for NEXICART-2 trial in AL Amyloidosis	2Q/3Q 2026

Completed		
NASDAQ IPO 2021		
Formed Cell Therapy R&D	taskforce in 2022	<b>②</b>
Secured global commercial NXC-201 from Hadassah/B	-	<b>&gt;</b>
Reported	ASGCT 2023	
NEXICART-1 AL Amyloidosis interim clinical	ASH 2023	
data at:	ASGCT 2024	
Dosed first US patient in N AL Amyloidosis clinical tria		Met mid-2024 guidance

## Pipeline: Only CAR-T in AL Amyloidosis; Tailor-Made for select Immune-Mediated Diseases



#### Lead Program: NXC-201, a next-generation BCMA-targeting CAR-T for AL Amyloidosis and select immune-mediated diseases

Indication	Therapy	Pre-clinical	Phase 1	Phase 2	Upcoming Milestones
Relapsed/Refractory					4Q 2024: Initial NEXICART-2 clinical data presentation in AL Amyloidosis  2Q/3Q 2025: Report interim clinical data readout for
AL Amyloidosis	NXC-201	US FDA and EU EC Orphan Drug Do	esignation (ODD)		NEXICART-2 trial in AL Amyloidosis
					<b>2Q/3Q 2026:</b> Report final topline clinical data readout for NEXICART-2 trial in AL Amyloidosis
Undisclosed select Immune-Mediated Diseases	NXC-201	IND enabled			<b>4Q 2025:</b> Report NXC-201 interim clinical data in 2 unaddressed immune-mediated diseases
Other Emerging Pip	eline				
Preclinical Candidates	Not yet announced				

### NXC-201 Referenced in June 2024 New England Journal of Medicine Publication



#### TREATMENT OF RELAPSE AND PROGRESSION AFTER INITIAL THERAPY

No consensus has been established on the criteria for commencing second-line therapy in patients with progressive disease after initial therapy. Avid Patients with relapsed disease can be treated by repeating first-line therapy if the response lasted for more than a year, although such patients have a shorter time to relapse without a reduction in overall survival than patients who are treated with a different therapy for relapsed disease.

The potential options available for the treatment of relapsed systemic AL amyloidosis include proteasome inhibitors,75,76 anti-CD-38 monoclonal antibodies,77,78 immunomodulatory agents,79 venetoclax for patients with t(11:14),80 bendamustine,81 high-dose melphalan with autologous SCT, 82,83 bispecific antibodies, 84,85 and even chimeric antigen receptor T-cell therapy.86 Although it is not possible to be prescriptive regarding the sequencing of therapies, the two guiding considerations are the depth and duration of the initial response and the choice of a class of agents not previously used. The limitations imposed by a patient's reduced level of fitness or frailty and end-organ damage must also be considered. Enrollment in clinical trials is encouraged.

#### The NEW ENGLAND JOURNAL of MEDICINE

#### REVIEW ARTICLE

Dan L. Longo, M.D., Editor

#### Systemic Light Chain Amyloidosis

Vaishali Sanchorawala, M.D.

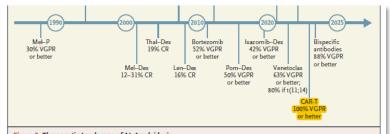


Figure 3. Therapeutic Landscape of AL Amyloidosis.

The therapeutic landscape of AL amyloidosis has seen substantial expansion in the past three decades. The majority of treatment regimens are adapted from myeloma therapies, with a focus on targeting the underlying plasma cell clone. Hematologic response has improved significantly with more effective and contemporary treatments, contributing to an overall increase in survival and a reduction in the rate of early death. CAR-T denotes chimeric antigen receptor T-cell therapy. CR complete hematologic response, CTD cyclophosphamide—thalidomide—dexamethasone, CPBorD cyclophosphamide—bortezomib—dexamethasone, HDM—SCT high-dose melphalan attern-cell transplantation, ixazomib—Dex ixazomib—dexamethasone, Len—Dex lenalidomide—dexamethasone, Mel—Dex melphalan—dexamethasone, Mel—P melphalan—prednisone, Pom—Dex pomalidomide—dexamethasone, Thal—Dex thalidomide—dexamethasone, and VGPR very good partial hematologic response.

tory AL amyloidosis: a multinational retrospective case series. Elood 2024;143: 734-7.

86. Kfir-Erenfeld S, Asherie N, Grisariu S, et al. Feasibility of a novel academic ECMA-CART (HBI0101) for the treatment of relapsed and refractory AL amyloidosis. Clin Cancer Res 2022;28:5156-66.

 Nuvolone M, Nevone A, Merlini G. Targeting amyloid fibrils by passive immunotherapy in systemic amyloidosis.

Footer Sanchorawala et al. Systemic Light Chain Amyloidosis. New England Journal of Medicine. June 2024.

#### World-Class Team



Leadership



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Gabriel Morris, BA Chief Financial Officer



Graham Ross, MBChB, FFPM Chief Medical Officer



David Marks, MBBS, PhD Chief Medical Officer, Cell Therapy



Gerhard Bauer Head of Cell Therapy Manufacturing



























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SVP, Office of the President, Memorial Sloan Kettering Cancer Center



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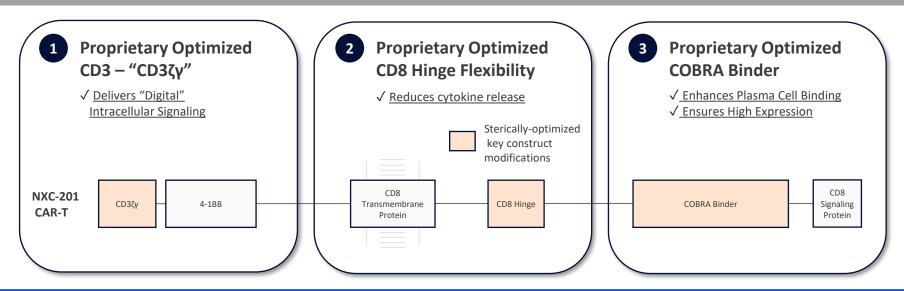
## N-GENIUS Platform: Sterically-Optimized CAR-T Construct Drives Differentiated NXC-201 Clinical Profile



ALL BCMA CAR-TS ARE NOT CREATED EQUAL

#### **N-GENIUS PLATFORM**

Our CAR-T is differentiated based on 3 Key Construct Modifications



Immix's proprietary N-GENIUS Platform can overcome the inherent limitations of conventional CAR-T methodologies that lack the sterically-optimized CD3ζγ ("Digital" Signaling), CD8 hinge flexibility, and COBRA binder, which drive NXC-201's greatly reduced neurotoxicity, minimized CRS duration, and enhanced efficacy in heavily pretreated patients

"Single amino acid substitutions at key sites can affect CAR-T function over 200-fold range"



# Proprietary Sterically-Optimized CD3ζ + CD8 Delivers "Digital" Intracellular Signaling, Eliminates Neurotoxicity, Reduces CRS Duration



CD3ζ

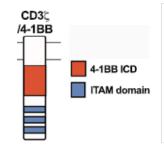
CARs rely on activation of CAR-T cells through CD3 $\zeta$  derived immunoreceptor tyrosine-based activation motifs (ITAMs), typically 3 ITAM motifs per CAR

NXC-201 adds a positively charged amino acid (lysine) next to a tyrosine phosphorylation site, therefore:

- ✓ Impeding phosphorylation of ITAM1 (by affecting protein folding dynamics which block the tyrosine site), thus reducing intracellular reactivity
- √ Adding an additional site for ubiquitination, allowing the CAR to be marked for degradation more rapidly that a traditional CAR

The combined effect of these modifications is to drive a "digital" signaling of extracellular activity, that is on when antigen is present and off when not

Modification of ITAMs is a common theme in third-generation CAR design, with publications in Nature Medicine and by Memorial Sloan Kettering on the topic



## **nature** Signal Transduction and Targeted Therapy

"In activated T cells, the CD3ζ chain gets ubiquitinated by CBLB at its multiple lysine residues and induces degradation of surface TCRs"

doi: 10.1038/s41392-021-00823-w





#### Memorial Sloan Kettering Cancer Center

"We hypothesized that the redundancy of CD28 and CD3 $\zeta$  signaling in a chimeric antigen receptor (CAR) design incorporating all three CD3 $\zeta$  immunoreceptor tyrosine-based activation motifs (ITAMs)11,13 may foster counterproductive T cell differentiation and exhaustion. Therefore, we calibrated ITAM activity by mutating tyrosine residues to impede their phosphorylation and downstream signaling"

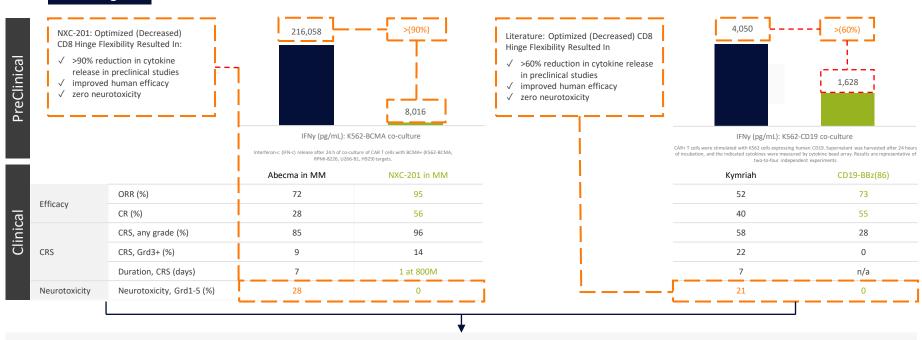
doi: 10.1038/s41591-018-0290-5

2

# Proprietary Sterically-Optimized CD3ζ + CD8 Delivers "Digital" Intracellular Signaling, Eliminates Neurotoxicity, Reduces CRS Duration







Sterically-optimized (Decreased) CD8 Hinge Flexibility Results in Zero Neurotoxicity, Improved Human Efficacy, and reduction in CRS duration

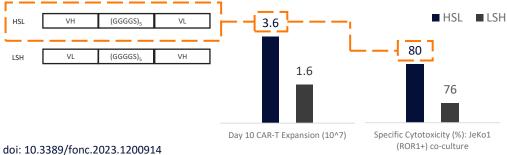


## Sterically-Optimized COBRA Binder Ensures High Expression And Binding Affinity



#### **COBRA Binder**

**COBRA Binder** Leads with **Heavy Chain** 



Proven Linker of Heavy and Light Chain **Employed** 

#### Biomarker Research

"Glycine (Gly) and serine (Ser) residues provide the flexibility necessary for antigen-binding sites to change conformation and maintain good stability in aqueous solutions... prevent[ing] formation of secondary structures and reduc[ing] likelihood of the linker interfering with the folding and function of the scFv"

September 19, 2022 doi: 10.1186/s40364-022-00417-w **COBRA Binder:** Heavy Chain - Proven Linker -Light Chain Configuration, enabling:

√ Rapid, Sustained **CAR-T Expansion** 

NXC-201

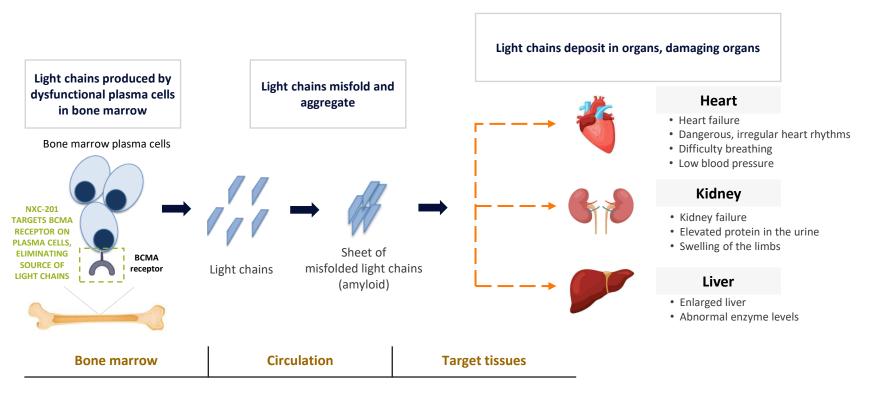
√ Improved Cytotoxicity in the presence of antigen

Source:: Moreno-Cortes E,. et al Front Oncol. 2023; Mazinani M, et al. Biomark Res. 2022.

## AL Amyloidosis: ~33,000 relapsed/refractory U.S. Patients With No FDA approved drugs



NXC-201 TARGETS AL AMYLOIDOSIS PLASMA CELLS THAT EXPRESS BCMA ON CELL SURFACE



## NXC-201 Addresses Sizable U.S. Relapsed/Refractory AL Amyloidosis Patient Population (1/2)

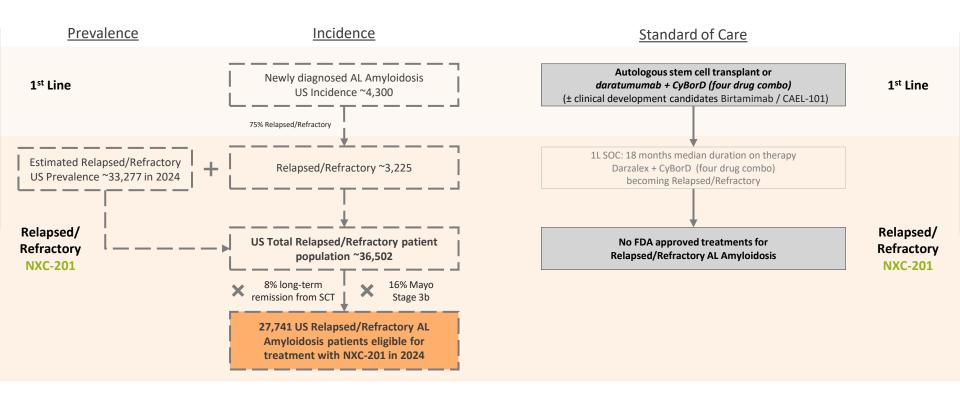




Note: Public information development plans as of 2023. Dara-Cy807: Daratumumab, Bortezomib + cyclophosphamide + desamethasone. BMD: bortezomib, melphalan, and dexamethasone. Source: Dima D, et al. Diagnostic and Treatment Strategies for IA. Amyloidosis in an Era of Teraspuric Innovation. J.CO Oncol Pract. 2023; immene-Zepeda VH, et al. Understanding real-world reatment plans as of 2023. Dara-Cy807: Daratumumab, Bortezomib + cyclophosphamide - desamethasone. BMD: bortezomib, melphalan, and dexamethasone. Source: Dima D, et al. Diagnostic and Treatment Strategies for IA. Amyloidosis paratients diagnosed in Canada: A population-based cohort study, EHaem. 2022; Box derma Melphalan and stem cell transplantation. Blood. 2017; Palladini 6, et al. Persentation and outcome with second-line treatment in Al amyloidosis previously sentitive to nontransplant therapies. Blood. 2015; Quoct TV, Pin, T, Change, Cybride MS. Epidemiology of Al amyloidosis: a real-world study using US claims data. Blood ADV. 223(10):1045-1053. doi: 10.1182/bloodedvances.2018.016402. PMID: 29748430; PMID: PMC5965052. Staron A, et al. Marked progress in AL amyloidosis survival: a 4D-year Inorgitudinal natural history study. Blood Cancer. J. 2021;1(8):139; LUR, Richards TA. AL Amyloidosis: Unfolding a Complex Disease. J Adv Pract Oncol. 2019;1(8):813-825. EQ. Crusoe, E Kastritis, V Sanchorawala, GMOBOTAS Group. Substances Data Startumumab & Potteromib. Civolophosphamides. and Celemanethasone (Voli In Palents with Newty). Diseased blich from the Phase 3 Andromodes Study. Hematodos: Union 45. Sucolement. J. 2021. https://doi.org/10.1016/f.http.2011.0364.

## NXC-201 Addresses Sizable U.S. Relapsed/Refractory AL Amyloidosis Patient Population (2/2) 🗱 🗓





Note: 8% long-term remission estimated based on 20% eligible for SCT x 40% achieving CR (associated with superior long survival)

Source Quock TP, Yan T, Chang E, Guthrie S, Broder MS. Epidemiology of AL amyloidosis: a real-world study using US claims data. Blood Adv. 2018 May 22;2(10):1046-1053. doi: 10.1182/bloodadvances.2018016402. PMID: 29748430; PMID: 29748430;

### NXC-201 May Be a Curative Treatment for AL Amyloidosis

ALL BCMA CAR-TS ARE NOT CREATED EQUAL

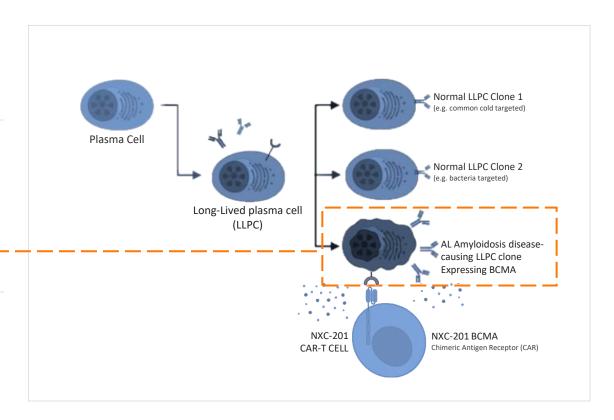


AL amyloidosis is caused by dysfunctional plasma cells that can live for years, continuously producing toxic, misfolded amyloid light chain antibody fragments

#### AL Amyloidosis disease-causing plasma cells:

- Are a minority of total plasma cells
- Are 1 of thousands of antibody-specific plasma cells, each of which produces 1 antibody, specific to 1 target (e.g. common flu, cold, a type of bacteria...)
- Are eliminated by NXC-201 treatment

Then healthy plasma cells regenerate in the months after NXC-201 treatment, potentially preventing disease relapse



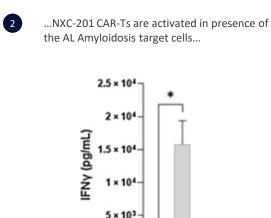
### NXC-201 Designed for High Activity Against Disease-causing AL Amyloidosis Plasma Cells

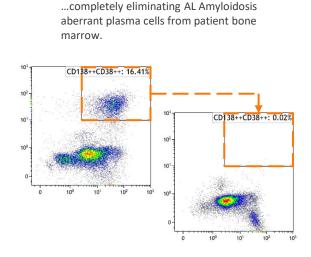




a) <u>Uneven</u> BCMA expression and b) <u>frail patient condition</u> has historically prevented conventional, approved CAR-T use in AL Amyloidosis NXC-201 was designed and tested for human AL Amyloidosis treatment, with preclinical testing revealing that:

BCMA is expressed in 18 AL Amyloidosis patients at a low-medium level...





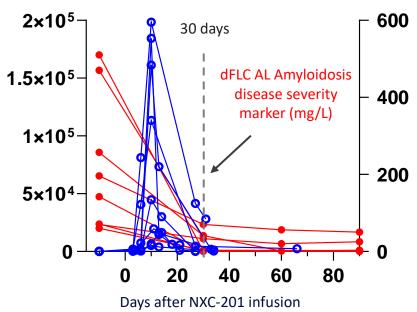
NXC-201's uniquely favorable tolerability profile (no neurotoxicity + "Single-day CRS") combined with proven preclinical and clinical efficacy make NXC-201 uniquely suited to treat AL Amyloidosis.

# Primary Efficacy Endpoint for NEXICART-2: Normalization of Diseased Free Light Chains 30 Days after Dosing



NXC-201 RAPIDLY ELIMINATES DISEASED AL AMYLOIDOSIS PLASMA CELLS AND EXITS WITHIN ~30 DAYS

→ NXC-201 /mL Blood → dFLC (mg/L)



NEXICART-1 Clinical Trial Data. Each line represents 1 patient clinical data readout after NXC-201 \*dFLC (=involved free light chain - uninvolved free light chain), an AL amyloidosis disease severity marker



## The NEW ENGLAND JOURNAL of MEDICINE

"An early and deep hematologic response has been found to lead to significantly prolonged survival"

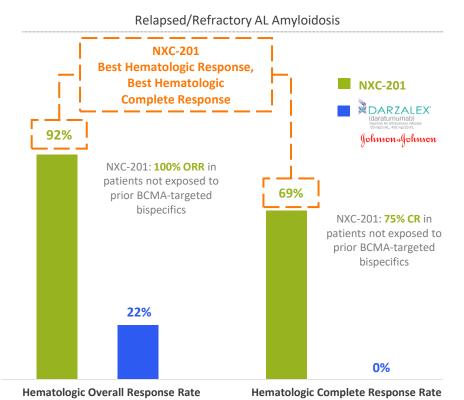
Vaishali Sanchorawala, M.D.
 Professor, Hematology and Oncology
 Director, Amyloidosis Center at Boston University School of Medicine
 Director, Stem Cell Transplantation at Boston Medical center

doi: 10.1056/NEJMra2304088

## NXC-201: High Complete Response Rate in R/R AL amyloidosis (\$3bn market) at ASGCT 2024

APPROVAL OF DARZALEX Cybord IN FRONT-LINE AL AMYLOIDOSIS BASED ON COMPLETE RESPONSE RATE





#### NXC-201 - NEXICART-1 Clinical Data

Only CAR-T in AL Amyloidosis

100% Overall Response Rate and 75% Complete Response Rate in Relapsed/Refractory AL amyloidosis for patients without prior BCMA-targeted bispecifics exposure

(median 4 lines of prior therapy prior to NXC-201 – all including Darzalex)

Zero Neurotoxicity of any grade in AL Amyloidosis

# Ongoing potentially pivotal NEXICART-2 Trial Targeting Relapsed/ Refractory AL Amyloidosis Patients Most Likely to Benefit



NXC-201 clinical data indicate that R/R Amyloidosis patients with better pre-existing cardiac status and no prior BCMA-targeted bispecifics exposure are more likely to benefit from treatment

Relapsed/Refractory AL Amyloidosis NXC-201 trial	Allows pre-existing severe cardiac patient enrollment?	Allows patients with prior BCMA-targeted therapy exposure?	Allows patients with concomitant Multiple Myeloma?
NEXICART-1: ongoing Israel trial	X Yes	X Yes	<b>X</b> Yes
NEXICART-2: ongoing US trial	✓ No	√No	<b>√</b> No

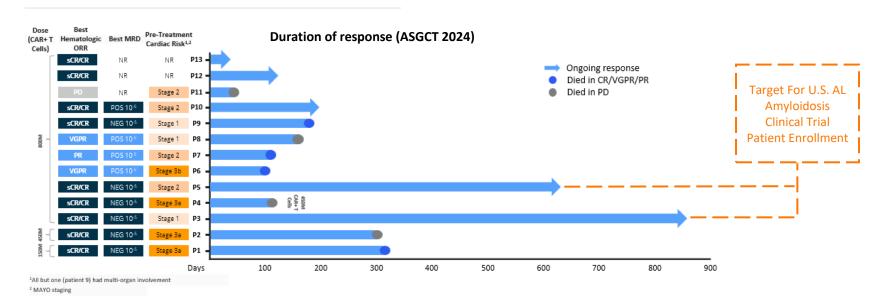
40 patient, single-arm, open-label US trial → submit data to FDA

## NEXICART-1: Durable Responses in NXC-201 AL Amyloidosis Clinical Trial



ONGOING U.S. TRIAL TARGETING R/R AL AMYLOIDOSIS PATIENTS MOST LIKELY TO BENEFIT FROM DURABLE RESPONSES

- Complete hematologic response (CR) of 69% (9/13), and CR 75% (9/12) in patients without prior exposure to BCMA-targeted bispecific, a
  precedent approval endpoint based on the only commercial treatment for AL amyloidosis
- Ongoing NEXICART-2 US trial targeting patients reflective of durable responders



sCR: strict complete response, CR: complete response

Darzalers TA label. Assayag, et al. Academic Anti-ECMA-CART cells (HBI0301), a premise approach for the treatment of IC Amylogous, 27th Annual Meeting of The American Society of Gene and Cell Therapy (ASGCT). Late Breaking Oral Presentation. Baltimore, MD. May, 2024. E. Lebel, M.E. Gatt et al. Feasibility of a Novel Academic Anti-ECMA Chimeric Antigen Receptor T-Cell (CART) (HBI0301), a premise approach for the treatment of IC Amylogous, 27th Annual Meeting of The American Society of Gene and Cell Therapy (ASGCT). Late Breaking Oral Presentation. Baltimore, MD. May, 2024. E. Lebel, M.E. Gatt et al. Feasibility of a Novel Academic Anti-ECMA Chimeric Antigen Receptor T-Cell (CART) (HBI0301), a premise approach for the treatment of IC Amylogous, 27th Annual Meeting of The American Society of Gene and Cell Therapy (ASGCT). Late Breaking Oral Presentation. Baltimore, MD. May, 2024. E. Lebel, M.E. Gatt et al. Feasibility of a Novel Academic Anti-ECMA Chimeric Antigen Receptor T-Cell (CART) (HBI0301), a premise approach for the treatment of IC Amylogous, 27th Annual Meeting of The American Society of Gene and Cell Therapy (ASGCT). Late Breaking Oral Presentation. Baltimore, MD. May, 2024. E. Lebel, M.E. Gatt et al. Feasibility of a Novel Academic Anti-ECMA Chimeric Antigen Receptor T-Cell (CART) (HBI0301), a premise approach for the treatment of IC Amylogous, 27th Annual Meeting of The American Society of

## NEXICART-1: NXC-201 N-GENIUS Platform "Single-Day CRS" Drives AL Amyloidosis Leadership



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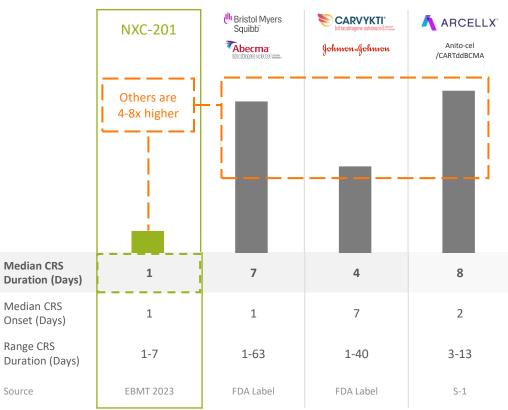
NXC-201's short CRS duration makes it **uniquely suitable to treat ALA patients** (in whom the #1 source of mortality is heart failure)

Cardiovascular stress is the key determinant for ability to treat relapsed/refractory ALA patients

- Long CRS duration causes extended cardiovascular stress
- Other CARTs have 4-8x longer CRS duration

"The biggest challenge ... has been applicability of these therapies in amyloidosis when the patients are particularly frail and have organ dysfunction ... where the key lies in the safety rather the efficacy in a low-volume disease setting is going to be key ... "

Dr. Susan Bal, MD
 Assistant Professor, Hematology
 University of Alabama at Birmingham



Source:M. Assayag, et al. Point-of-care CART manufacture and delivery for the treatment of multiple myeloma and AL amyloidosis: the experience of Hadassah Medical Center. European Society for Blood and Marrow Transplantation 49th Annual Meeting, Poster Presentation. April 2023. Nov 2023 KOL discussion https://lifescievents.com/event/immibilor/XXX-201 (formerly HBI0101) American Society of Hematology Presentation, Abecma FDA approval blook. Cravid FD

Data in Multiple Myeloma

#### **NEXICART-1: Overcoming Neurotoxicity**

ASGCT 2024

Company Announcement

Source

ALL BCMA CAR-TS ARE NOT CREATED EQUAL



#### **LOW VOLUME DISEASE HIGH VOLUME DISEASE** NXC-201 Others NXC-201 Abecma/Carvykti **AL Amyloidosis Multiple Myeloma** Multiple Myeloma Low volume autoimmune diseases Bristol Myers Others are Others are Squibb >10x higher 8-10x higher Abecma Cabaletta Bio<sup>®</sup> **CARVYKTI** CABA-201 **Grade 4 ICANS** Johnson-Johnson -kyverna. KYV-101 Neurotoxicity 0% 10-33% 3% 23-28% Patients 13 3-30 63 31-127 EULAR 2024/ Abecma label, Carvykti label, Arcellx S-1 ASH 2023

## NEXICART-2 US Relapsed/Refractory AL Amyloidosis Trial (NCT06097832)

NEXICART-2 NXC-201 US TRIAL INITIATED IN MID-2024



#### Study design

- · Open-label, single-arm Phase 1b/2 study
- n=40 patients (majority of which expected to be enrolled in Phase 2 portion)

#### **Key criteria**

Inclusion

 AL Amyloidosis patients exposed to at least 1 line of therapy including a CD38 monoclonal antibody

Evolusion

- Prior anti-BCMA directed therapy
- Cardiac: Mayo stage 3b, NYHA stage III/IV
- · Concomitant Multiple Myeloma

#### **Outcome measures**

- Phase 1b:
- Safety
- Efficacy: Hematologic response according to consensus recommendations in AL amyloidosis
- Phase 2:
  - Efficacy: Hematologic response according to consensus recommendations in AL amyloidosis
- Safety

#### Status

Lead site Memorial Sloan Kettering and other US sites started mid-2024



\*Dosing informed by NEXICART-1 Israel trial in which Complete Responses in light chain Amyloidosis were observed at all dose levels: 150M, 450M

Relapsed/Refractory AL Amyloidosis NXC-201 trial	Allows pre-existing severe cardiac patient enrollment?	Allows patients with prior BCMA-targeted therapy exposure?	Allows patients with concomitant Multiple Myeloma?
NEXICART-1: ongoing Israel trial	XYes	XYes	X Yes
NEXICART-2: ongoing US trial	√No	√No	✓ No

Could enrich
ongoing NEXICART-2
US trial for patients
more likely to
benefit from therapy

# Single-arm potentially pivotal NEXICART-2 trial designed considering NEXCIART-1 and precedents in AL



		2021 daratumumab (DARZALEX) FDA Approval	NXC-201 NEXICART-2
	Line of Therapy	Newly Diagnosed	Relapsed/Refractory
	Standard of Care (SoC) at time of trial	3-drug combination: Cyclophosphamide, bortezomib, dexamethasone	✓ None (no FDA approvals)
Patient Characteristics	Randomization vs. Standard of Care?	X Randomization vs. SoC	✓ No SoC to randomize against
	Lines of therapy prior to receiving study drug	x <b>None</b>	✓ At least 1 line of therapy including a CD38 monoclonal antibody
Study Design	Statistical Power	Based on the assumption that the percentage of patients with a hematologic complete response would be 15 percentage points higher in the daratumumab group than in the control group; approximately <b>360 patients were required</b> to provide 85% power to detect this difference (two-sided alpha level of 0.05).	
	Primary Endpoint	✓ Hematologic complete resp	onse rate for both studies

Single-arm, open-label FDA approval precedents include: Abecma/BMS (single arm study 100 patients in efficacy results population, FDA approved 2021); Carvykti/J&J (single arm study 97 patients in efficacy results population, FDA approved 2022); Elrexfio/Pfizer (single arm study 97 patients in efficacy results population, FDA approved 2023)

## Advantages of CAR-T NXC-201 in Relapsed/Refractory AL Amyloidosis



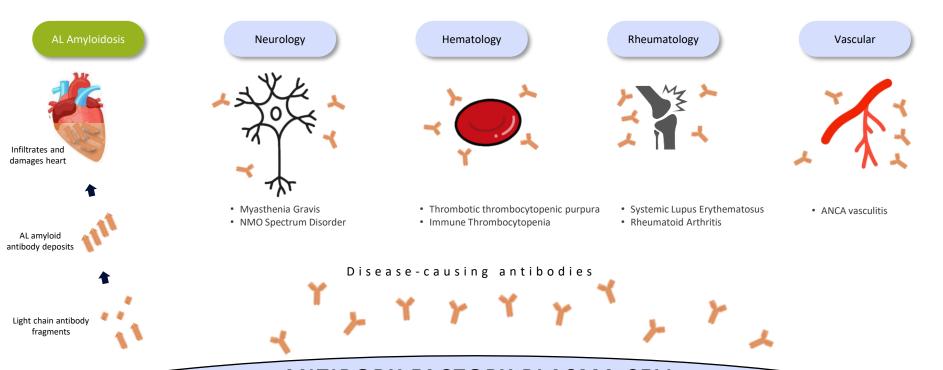
	NXC-201	Antibody-drug conjugates	Bispecifics	
One-time treatment		×	8	NXC-201
High Complete Response Rates		×	×	uniquely suited for Relapsed/Refractory
Low rates of severe infection		<b>Ø</b>	×	AL Amyloidosis
No ICANS/Neurotoxicity	<b>Ø</b>	<b>⊘</b>	×	

Source: Feasibility of a Novel Academic Anti-BCMA Chimeric Antigen Receptor T-Cell (CART) (H80101) for the Treatment of Relapsed and Refractory AL Amyloidosis, 65th ASH Annual Meeting and Exposition, San Diago, CA. October 2023. R. Chakraborty, et al. Safety and efficacy of teclistamab in systemic immunoglobulin light chain amyloidosis. Blood Cancer Journal. October 2023. N. Forgeard, et al. Teclistamab in relapsed or refractory AL Amyloidosis, and antional recrospective case series. Blood. February 2024. Chakraborty R, Buttario I, Manter MS, Mohan M, Lentzach, S, Disoua. A Safety and efficacy of teclistamab in anyloidosis. Blood Cancer J. 2023 Nov 27;13(1):172. doi: 10.1038/s41408-023-00950-3. PMID: 38012151; PMCID: PMCI0682473. One NXC-201 relapsed / refractory AL amyloidosis. Part and All anyloidosis. Part anyloidosis. Part and All anyloidosis. Part and All anyloidosis. Part and All anyloidosis. Part a

### CAR-T NXC-201 Targets Plasma Cells (antibody factories of the body)



ANTIBODY FACTORY PLASMA CELLS PRODUCE ANTIBODIES THAT DRIVE IMMUNE-MEDIATED DISEASES





### ANTIBODY FACTORY PLASMA CELL

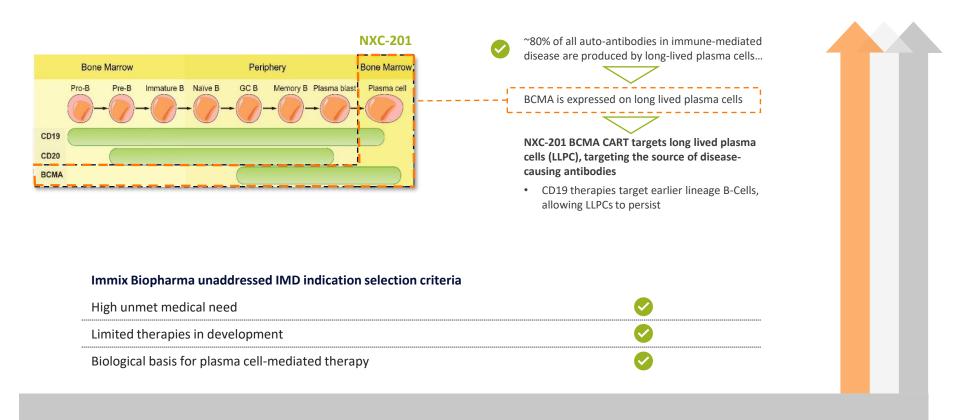
(NXC-201 therapeutic target)

Note: select indications noted above are for illustrative nurnoses only

#### NXC-201 BCMA CAR-T targeting is uniquely suited to address Immune-Mediated Diseases



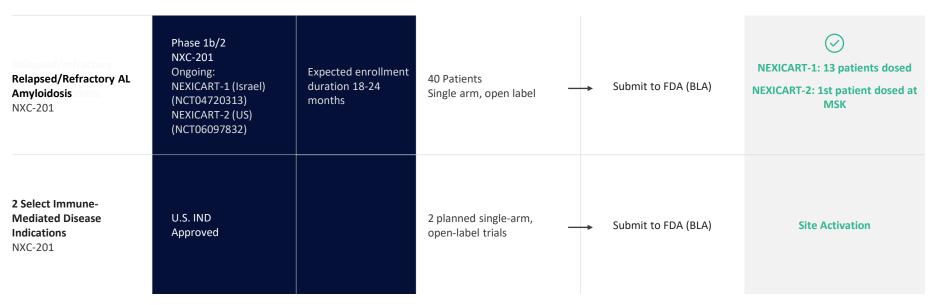
NXC-201 BCMA CAR-T TARGETS LONG-LIVED PLASMA CELLS, WHICH ARE OFF-TARGET FOR CD19 THERAPEUTICS



### NXC-201 Clinical Development Plan Through FDA BLA Submissions



RELAPSED/REFRACTORY AL AMYLOIDOSIS CLINICAL TRIAL TO ENROLL 40 PATIENTS PRIOR TO FDA BLA SUBMISSION



Note: 63 Relapsed/Refractory multiple myeloma patients have been dosed with NXC-201 in the ex-US NEXICART-1 clinical trial. Immix Biopharma is not actively pursuing US commercial approval in Relapsed/Refractory multiple myeloma at this time.

## Appendix

November 2024



## Principal Investigator for NEXICART-2: Heather Landau, MD





- Director of the Amyloidosis Program and a Bone Marrow Transplant Specialist & Cellular Therapist at Memorial Sloan-Kettering Cancer Center in New York.
- Authored more than 100 peer-reviewed publications.
- Dr. Landau received her medical degree from SUNY Upstate Medical University, completed her Internal Medicine residency at University of Colorado and her Hematology & Oncology fellowship at Memorial Sloan Kettering Cancer Center.

### NXC-201 CAR-T cells penetrate tissues and repeat kill disease-causing cells in AL Amyloidosis



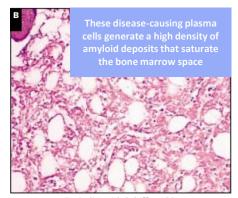
AL Amyloidosis pathologic light chains emerge from deep in the bone marrow where they are produced by pathologic antibody factory plasma cells

Traditional antibody-based therapies primarily address passively accessible target cells

NXC-201 is the only AL amyloidosis therapy in clinical development that actively penetrates deep into the bone marrow



Immunoperoxidase with hematoxylin counterstain, ×100



Periodic acid—Schiff, ×100

Antibody-based therapeutics have difficulty penetrating deep into organs where disease causing plasma cells reside

## Inserm

"Plasma cells (PC) were detected in the [organs] of patients ... up to 6 months after rituximab treatment, and the PC population displayed a long-lived program"

doi:10.1172/JCI65689

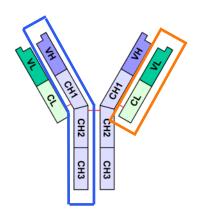
# Pathologic Light Chains in AL Amyloidosis are an Antibody Building Block That Are Overproduced by Plasma Cells



#### A LIGHT CHAIN IS A PORTION OF AN ANTIBODY

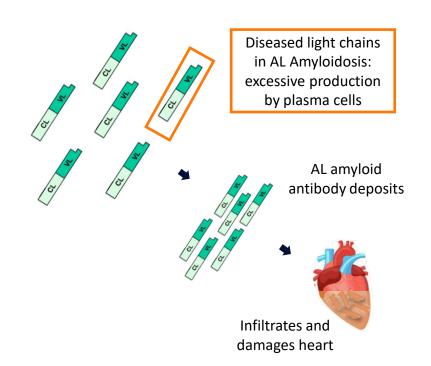
Light chain portion of antibody

Heavy chain portion of antibody



Normal antibody produced by plasma cell

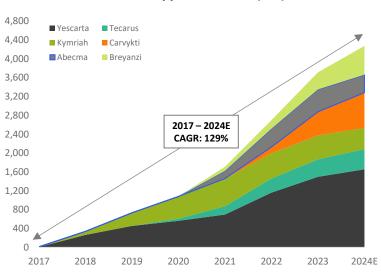
## IN AL, PLASMA CELLS PRODUCE TOO MANY LIGHT CHAINS (AND NOT ENOUGH HEAVY CHAINS)



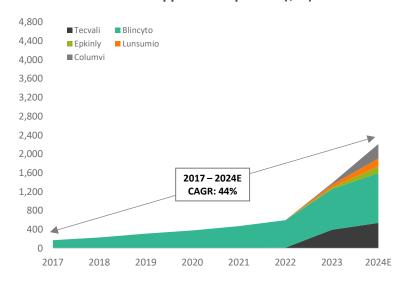
#### Robust Global Sales of CAR-T Continue



#### Sales of Approved CAR-T (\$M)



#### Sales of Approved Bispecifics (\$M)

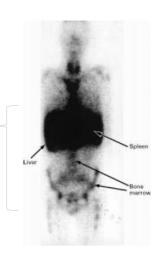


## Amyloid deposits in AL Amyloidosis are cleared naturally after treatment



#### **BEFORE TREATMENT**

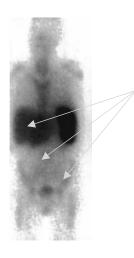
Pre-treatment imaging shows dense amyloid deposits in liver, bone marrow, and other organs in AL patient



Cytotoxic treatments (vincristine, adriamycin, and dexamethasone)



#### 6-MONTHS AFTER TREATMENT



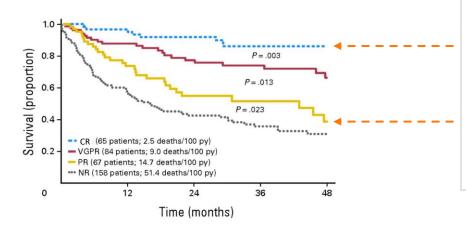
Post-treatment imaging shows clearance of amyloid in organs throughout the body

### Complete Hematologic Response is correlated with longer survival

COMPLETE HEMATOLOGIC RESPONSE WAS PRIMARY ENDPOINT IN 2021 DARATUMUMAB APPROVAL STUDY AND ONGOING NEXICART-2 TRIAL



#### Complete Hematologic Response (CR) associated with improved survival in AL



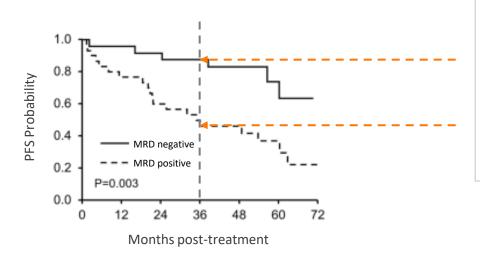
#### 2x survival at 48 months for CR vs PR

- Complete Hematologic response patients have 85% survival at 48 months
- Partial hematologic response patients have 40% survival at 48 months

## MRD- is Correlated with Improved PFS in AL Amyloidosis



#### MRD negativity is associated with improved Progression Free Survival in AL



#### 2x PFS at 36 months for MRD- vs MRD+

(patients with CR or VGPR)

- MRD negative patients have 88% 36-month PFS
- MRD positive patients have 46% 36-month PFS

# In AL Amyloidosis, NXC-201 Overcomes Limitations of Other Modalities in Performance and Tolerability



#### Challenges of bispecifics/ T-cell engagers **NXC-201** overcomes these challenges 75% CR in relapsed/refractory AL No clinical trials with clinical data amyloidosis in patients with no prior available in relapsed/refractory AL amyloidosis **BCMA-targeted bispecifics exposure** 0 deaths from infection in Early data from select centers indicates relapsed/refractory AL amyloidosis bispecific responses and tolerability are inferior to CAR-T (NXC-201) in 0% neurotoxicity (0/13) in relapsed/refractory AL amyloidosis relapsed/refractory AL amyloidosis Retrospective study with 17 R/R patients multiple myeloma + AL Amyloidosis One-time dosing with durable patients: 41% CR responses 35% severe infections Ongoing NEXCART-1 including death relapsed/refractory AL amyloidosis Grade 3 ICANS neurotoxicity clinical trial with clinical data reported presented at ASGCT 2024 Repeat/ongoing dosing with need for healthcare provider to administer

Advantages of NXC-201 CAR-T in AL Amyloidosis

# N-GENIUS Sterically-Optimized CARTs Drive Immix's Immune-Mediated Disease Leadership



#### **N-GENIUS Platform**

Through partnership Hadassah Medical Organization, Jerusalem and Bar-Ilan University, Immix is a pioneer in sterically-optimized CAR-T construct development, driving our next-generation industry-leading CAR-Ts in select immune-mediated diseases.

N-GENIUS developed sterically-optimized CAR-Ts allow for a differentiated safety and efficacy profile through modification of key regions of the CAR-T construct, driving a "digital" intracellular signal and overcoming limitations of current clinical stage and commercial CAR-Ts.

Portfolio of US patents, pending applications, and exclusive patent licenses, which cover our core technology platforms and product







# N-GENIUS Platform has produced sterically-optimized BCMA CAR-T NXC-201 with COBRA binder and EXPAND technology



ALL BCMA CAR-TS ARE NOT CREATED EQUAL

#### N-GENIUS PLATFORM

#### 3 Key Elements

#### Produced NXC-201



#### Purpose-Built Cell Therapy Evidence Capture Engine + Relational Database

Relating ImmixBio internal data to external to accelerate therapy design, manufacture, and preclinical



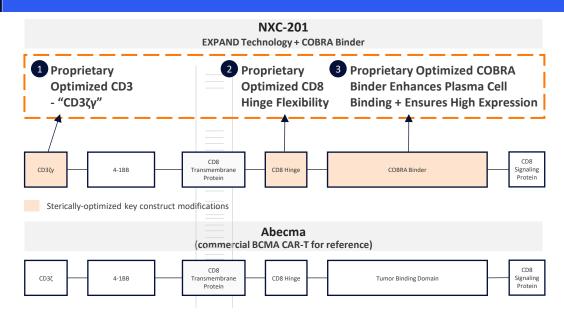
### Proprietary EXPAND technology

Applied to multiple cell therapy indications, already utilized to create NXC-201, to potentially increase efficacy and tolerability



# Atomized, Novel Binding Scaffold Generation Engine

Allows us to make the correct binding for every molecule



Source:. Aherie, N., et al Haematologica. 2022

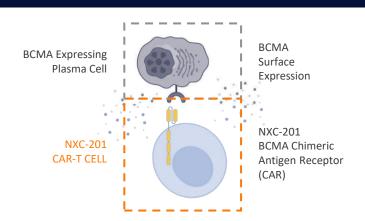
# NXC-201 MoA: Sterically-Optimized BCMA-targeted CAR-T



#### NXC-201: STERICALLY-OPTIMIZED BCMA CAR-T GENERATED BY THE N-GENIUS PLATFORM

#### NXC-201

#### NXC-201 — Key Characteristics





# High Transduction Efficiency (Ensuring efficient manufacturing)

\*Carvykti data presented at ASH 2019; Abecma data presented at ASH 2017. CART-ddBCMA source Arcellx. Analysis based on cross-trial comparisons of publicly available data reported in ASH 2017 and 2019 and not a head-to-head clinical trial

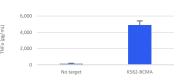




#### Low Tonic Signaling

(Lower off-target toxicity may lead to lower toxicity)

NXC-201 was co-cultured with the indicated target T cells and TNF $\alpha$  (B) and IL-2 (C) concentrations secreted in the culture supernatant were determined by ELISA.



NXC-201 is a next-generation chimeric antigen receptor (CAR)
T-cell (CAR-T) produced by our N-GENIUS platform targeting
B-cell maturation antigen (BCMA)

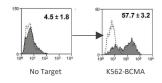
- High Overall Response Rates in AL Amyloidosis and Multiple Myeloma
- · First Outpatient CAR-T: Short CRS duration (median 1 days) starting on day 1



#### **Anti-Exhaustion Capability**

(Increased Persistence may lead to efficacy over an extended period of time)

NXC-201 was co-cultured overnight then analyzed by flow cytometry for the expression of 4-1BB

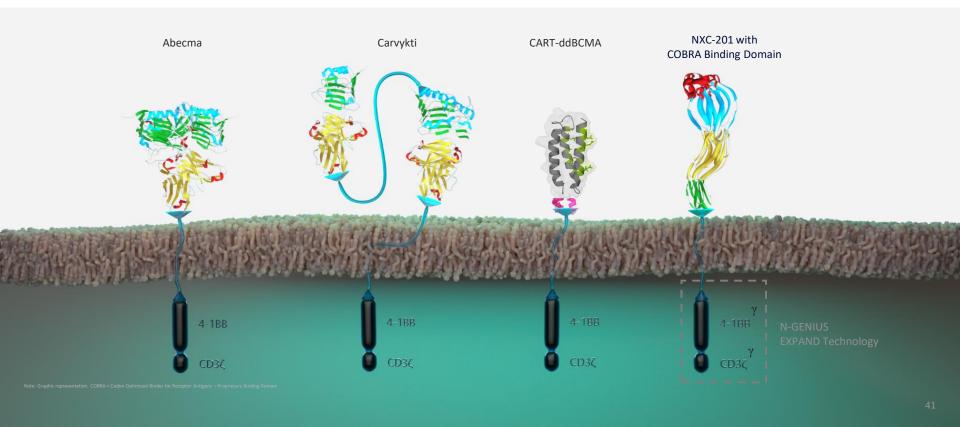


Source: Development and manufacturing of novel locally produced anti-BCMA CART cells for the treatment of relapsed/refractory multiple myeloma: phase I clinical results. Haematologica. 2022 Oct 6. doi: 10.3324/haematol.2022.281628. Epub ahead of print. PMID: 36200421.

# Proprietary EXPAND Technology and COBRA Binding Domain Are Differentiated Innovations

N-GENIUS TECHNOLOGY PLATFORM: STERICLALLY-OPTIMIZED BCMA CAR-T NXC-201





# NXC-201 Best-in-Class AL Amyloidosis Clinical Results



### Relapsed/Refractory Light chain (AL) Amyloidosis

	: IMMIX	Johnson-Johnson	AstraZeneca CAELUM	<b>∜</b> prothena•
	NXC-201 Monotherapy	Darzalex Combination (with cyclophosphamide, bortezomib, and/or dexamethasone)	CAEL-101	Birtamimab Combined with SOC CyBorD
Dosing frequency	1X	Weekly	Weekly	Weekly
Patient #s: n=	12	9	10 (renal), 24 (cardiac)	14 (cardiac), 15 (renal)
Hematologic Overall Response Rate	100%	22%	-	-
Hematologic Complete Response Rate	75%	0%	-	-
Hematologic CR + VGPR	92%	22%	-	-
Cardiac response – (NT-proBNP median reduction)	61%		39%	35%
Renal response (%)	67%		20%	60%
Median prior lines of therapy	4	1	2	2
% pretreated with CD38-targeted treatment (Darzalex/other)	100%	100%	?	0%

Birtaminab Source from LOC (Birtaminab development paused + restarted), CAEL-101 source: Edwards CV, et al. Phase 1a/b study of monoclonal antibody CAEL-101 (11-174) in patients with AL amyloidosis. Blood. 2021 Dec 23;138(25):2632-2641. doi: 10.1182/blood.2020009939. PMID: 34521113; PMCID: PMC8703360. Darralex source from Blood. Point-of-care CART manufacture and delivery: Poster.
Poster Presentation, ESBMT 2023. Poster ASGCT 2023. Figures reflect cross-trial comparison and not results from a head-to head study. Differences exist between trial designs and subject characteristics, and caution should be exercised when comparing data across studies. Poster: IMS 2023. Poster: ASH 2023. Darzalex and Investigator's Choice: Theodorakakou, et al, Blood 2021. Astra Zeneca: Blood 2021
IXMC-201 patients at ASGCT 2024 within prioric exposure to BCMAt aracteristic bispecifics.

### Differentiated NXC-201 safety profile validated in historical Multiple Myeloma data



#### NXC-201 tolerability data in Relapsed/Refractory Multiple Myeloma

Cytokine release syndrome				
	Cohort 1 (N=6) Cohort 2 (N=7)		Cohort 3 (N=50)	Overall (n=63)
Dose	150M	450M	800M	
CRS (n [%])				
Yes	5 (83%)	6 (86%)	48 (96%)	59 (94%)
No	1 (17%)	1 (14%)	2 (4%)	4 (6%)
CRS Start Day				
Median	6	0	0	
Min, Max	0, 21	0, 1	0, 4	
CRS Duration				
Median	3	2	1	
Min, Max	0,5	1,3	1,7	
CRS Grade (n [%])				
No CRS	1 (17%)	1 (14%)	2 (4%)	4 (6%)
1	4 (67%)	2 (29%)	17 (34%)	23 (37%)
2	1 (17%)	4 (57%)	24 (48%)	29 (46%)
3	0 (0%)	0 (0%)	7 (14%)	7 (11%)
4	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Tocilizumab (n [%])				
Yes	2 (33%)	4 (57%)	40 (80%)	46 (73%)
No	4 (67%)	3 (43%)	10 (20%)	17 (27%)
Steroids (n [%])				
Yes	0 (0%)	0 (0%)	8 (16%)	8 (13%)
No	6 (100%)	7 (100%)	42 (84%)	55 (87%)
Vasopressors (n [%])				
Yes	0 (0%)	0 (0%)	7 (14%)	7 (11%)
No	6 (100%)	7 (100%)	43 (86%)	56 (89%)

ICANS neurotoxicity					
	Cohort 1 (N=6)	Cohort 2 (N=7)	Cohort 3 (N=50)	Overall (n=63)	
Dose	150M	450M	800M		
ICANS (n [%])					
Yes	0 (0%)	0 (0%)	2 (4%)	2 (3%)	
No	6 (100%)	7 (100%)	48 (96%)	61 (97%)	
ICANS Grade (n [%])					
1-2	0 (0%)	0 (0%)	2 (4%)	2 (3%)	
3-4	0 (0%)	0 (0%)	0 (0%)	0 (0%)	

NXC-201 at 150M and 450M CAR+T cell dose (US AL Amyloidosis trial dosing):

- 0% Grade 3+ CRS
- 0% ICANS of any grade

# Relapsed/Refractory Multiple Myeloma: Key Inclusion Criteria



	NXC-201 (NEXICART-1 NCT04720313)	Abecma (pivotal NCT03361748)	Carvykti (pivotal NCT03548207)	CART-ddBCMA (pivotal NCT05396885)
Prior lines of therapy	≥3 different prior lines of therapy including proteasome inhibitor, immunomodulatory therapy and ≥1 antibody therapy, refractory/ responsive to the last line of therapy	≥3 different prior lines of therapy including a proteasome inhibitor, an immunomodulatory agent and an anti-CD38 antibody, refractory to the last treatment regimen	≥3 different prior lines of therapy including a proteasome inhibitor, an immunomodulatory agent and an anti-CD38 antibody, refractory to the last treatment regimen, refractory or non-responsive to their most recent line of therapy	≥3 different prior lines of therapy including a proteasome inhibitor, an immunomodulatory agent and an anti-CD38 antibody, refractory to the last treatment regimen
Toxicity recovery	Recovery to <u>Grade 2</u> or baseline of any non- hematologic toxicities due to prior treatments, excluding alopecia and Grade 3 neuropathy	Recovery to Grade 1 or baseline of any non- hematologic toxicities due to prior treatments	-	Resolution of adverse events (AEs) from any prior systemic anticancer therapy, radiotherapy, or surgery to Grade 1 or baseline
ECOG	0-2	0-1	0-1	0-1
Measurable disease	Serum M-protein greater or equal to 0.5 g/dL Urine M-protein greater or equal to 200 mg/24 h Serum free light chain (FLC) assay: involved FLC level greater or equal to 5 mg/dL (50 mg/L) provided serum FLC ratio is abnormal	<ul> <li>Serum M-protein greater or equal to 1.0 g/dL</li> <li>Urine M-protein greater or equal to 200 mg/24 h</li> <li>Serum free light chain (FLC) assay: involved FLC level greater or equal to 10 mg/dL (100 mg/L) provided serum FLC ratio is abnormal</li> </ul>	Serum monoclonal paraprotein (M-protein) level more than or equal to (>=) 1.0 gram per deciliter(g/dL) Urine M-protein level >=200 milligram per 24 hours (mg/24hr) Light chain multiple myeloma without measurable disease in the serum or the urine: Serum immunoglobulin free light chain 10 mg/dL and abnormal serum immunoglobulin kappa lambda free light chain ratio	<ul> <li>Serum M-protein ≥1.0 g/dL</li> <li>Urine M-protein ≥200 mg/24 hours</li> <li>Involved serum free light chain ≥10 mg/dL with abnormal κ/λ ratio (i.e., &gt;4:1 or &lt;1:2)</li> </ul>

# Relapsed/Refractory Multiple Myeloma: Key Exclusion Criteria



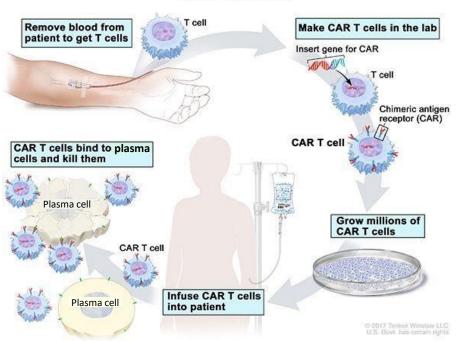
	NXC-201 (NEXICART-1 NCT04720313)	Abecma (pivotal NCT03361748)	Carvykti (pivotal NCT03548207)	CART-ddBCMA (pivotal NCT05396885)
Prior BCMA therapy	No exclusion	BCMA targeted therapy	Have received any therapy that is targeted to B-cell maturation antigen (BCMA)	Prior B-cell maturation antigen (BCMA) directed therapy
Prior cell therapy	Investigational cellular therapies within 8 weeks prior to the start of lymphodepletion	Investigational cellular therapy for cancer	Have received prior treatment with chimeric antigen receptor T (CAR-T) therapy directed at any target	Prior treatment with any gene therapy or gene- modified cellular immune-therapy

# What is autologous chimeric antigen receptor (CAR)-T cell therapy?

NXC-201 IS A NEXT-GENERATION BCMA TARGETED AUTOLOGOUS CAR-T CELL THERAPY







# **Patient Specific**

Personalized treatment using patient's own T cells

#### **Genetic Modification**

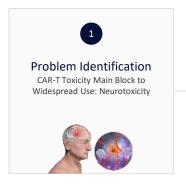
Genetically engineered CARs (chimeric antigen receptors) on T cell surface

### Targeted Therapy

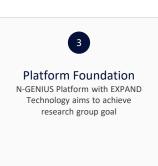
Target cells that express antigens recognized by CARs

#### N-GENIUS Platform Process





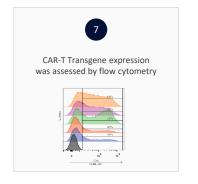


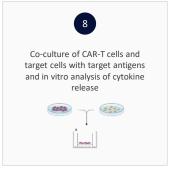


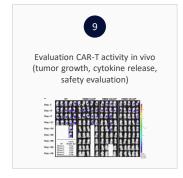














Clinical Stage CAR-T for AL Amyloidosis and Select Immune-Mediated Diseases

November 2024

