gamida cell

# Committed to Cures

Pioneering advanced cell therapies for patients with cancer and other serious diseases

August 2022

# Cautionary Note Regarding Forward Looking Statements

This presentation contains forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995, including with respect to timing of initiation and progress of, and data reported from, the clinical trials of Gamida Cell's product candidates (including omidubicel and GDA-201), actual or anticipated regulatory filings (including the potential timing of the FDA's review of the BLA for omidubicel), and the potentially life-saving or curative therapeutic and commercial potential of its product candidates. Any statement describing Gamida Cell's goals, expectations, financial or other projections, intentions or beliefs is a forward-looking statement and should be considered an at-risk statement. Such statements are subject to a number of risks, uncertainties and assumptions, including statements related to the impact that the COVID-19 pandemic could have on our business, and including the scope, progress and expansion of Gamida Cell's clinical trials and ramifications for the cost thereof; clinical, scientific, regulatory and technical developments; the process of developing and commercializing product candidates that are safe and effective for use as human therapeutics, and the endeavor of building a business around such product candidates. In light of these risks and uncertainties, and other risks and uncertainties that are described in the Risk Factors section and other sections of Gamida Cell's Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission (SEC) on August 15, 2022 and other filings that Gamida Cell makes with the SEC from time to time (which are available at http://www.sec.gov), the events and circumstances discussed in such forward-looking statements may not occur, and Gamida Cell's actual results could differ materially and adversely from those anticipated or implied thereby. Although Gamida Cell's forward-looking statements reflect the good faith judgment of its management, these statements are based only on facts and factors currently known by Gamida Cell. As a result, you are cautioned not to rely on these forward-looking statements.

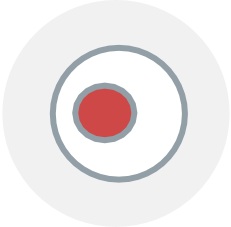
Gamida Cell is the leader in pioneering proprietary NAM-enabled cell therapies designed as a curative approach for patients with cancers and other serious diseases

# Gamida Cell's NAM-enabled cell therapy candidates are demonstrating near-term promise and long-term potential

## Omidubicel

### Lead candidate for potential U.S. launch 1H2023

- Potential to be first FDA-approved cell therapy for allogeneic hematopoietic stem cell transplant (allo-HSCT)
- Breakthrough Therapy and Orphan Drug status
- BLA accepted with Priority Review
- PDUFA date January 30, 2023



## GDA-201

### Advancing Natural Killer (NK) cell clinical program

- NK cell therapy candidate with positive Phase 1 data using fresh product
- Received FDA clearance for an IND for a Phase 1/2 trial in NHL with an allogeneic readily available cryopreserved formulation
- Open for enrollment, announced June 2022
- First patient dosed with cryopreserved formulation August 2022

## GDA-301/401/501/601

### Expanding pipeline of next generation immunotherapies

- Proof-of-concept for NK cell genetic engineering modifications, including CAR, membrane bound IL15, and knockouts using multiple approaches including CRISPR
- Evidence of increased cytotoxicity in preclinical studies
- Potential in hematology and solid tumors
- Plan to select one candidate for IND enabling study by the end of 2022

BLA: Biologics License Application. NHL: Non-Hodgkin Lymphoma. IND: Investigational New Drug.
GDA-201, GDA-301, GDA-401, GDA-501, GDA-601 are investigational and safety and efficacy have not been established by any agency.

# Proprietary pipeline of potential curative therapy candidates for patients with hematologic diseases and solid tumors

| PRODUCT | DISCOVERY | PHASE 1 | PHASE 2 | PHASE 3 | REGISTRATION |
|---|---|---|---|---|---|
| **ADVANCED CELL THERAPY** | | | | | |
| **OMIDUBICEL** | | | | | |
| Hematologic Malignancies | | | | | **Priority Review PDUFA January 2023** |
| Severe Aplastic Anemia | | | | | |
| **NK CELL THERAPIES** | | | | | |
| **GDA-201** | | | | | |
| Non-Hodgkin Lymphoma | **+ rituximab** | | ***IST complete**** | | |
| | **+ rituximab** | | ***Phase 1/2 open for enrollment; FPI August 2022*** | | |
| **GDA-301** | | | | | |
| Solid Tumors *CISH KO + membIL-15* | | | | | |
| **GDA-401** | | | | | |
| Undisclosed | | | | | |
| **GDA-501** | | | | | |
| Solid Tumors *HER2 CAR* | | | | | |
| **GDA-601** | | | | | |
| Multiple Myeloma *CD38 KO + CD38 CAR* | | | | | |

*Investigator Sponsored Trial (IST) was with a fresh formulation of GDA-201

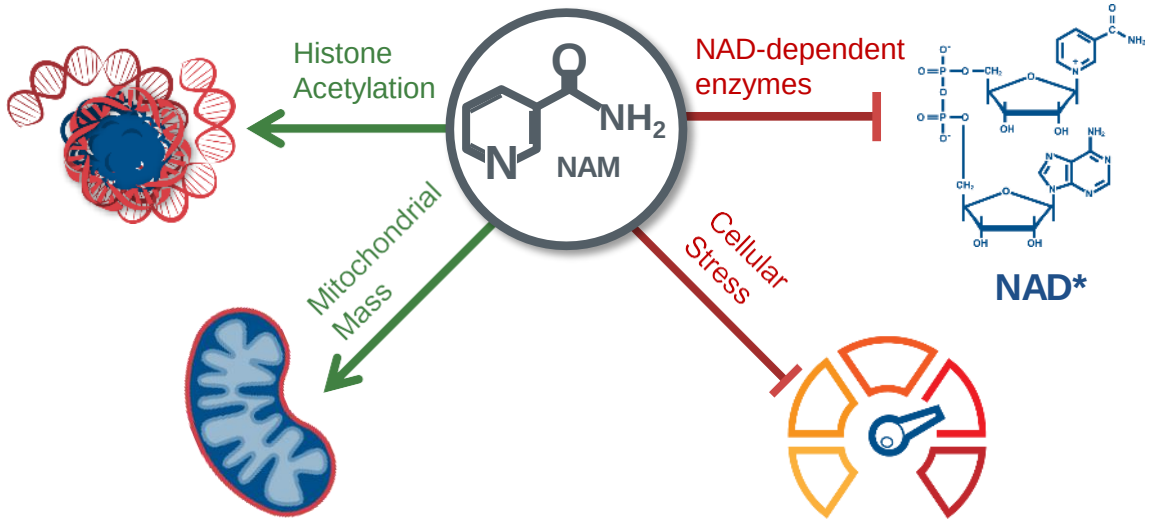


GDA-201, GDA-301, GDA-401, GDA-501, GDA-601 are investigational and safety and efficacy have not been established by any agency. FPI: first patient enrolled

# Our proprietary NAM Technology powers our commitment to cures

## Gamida Cell NAM Technology

- Enhances cellular **functionality and phenotype**
- Augments the **number of allogeneic donor cells**
- Demonstrates potential to **multiply any cell type**




NAM=nicotinamide. The NAM therapeutic platform leverages the unique properties of NAM to enable the enhancement of multiple cell types, including stem cells, with appropriate growth factors to maintain the cells' original phenotype and potency



Horwitz et al. Blood. 2021;138:1429-1440. Peled et al. *Exp Hematol.* 2012;40:342-55.e1.

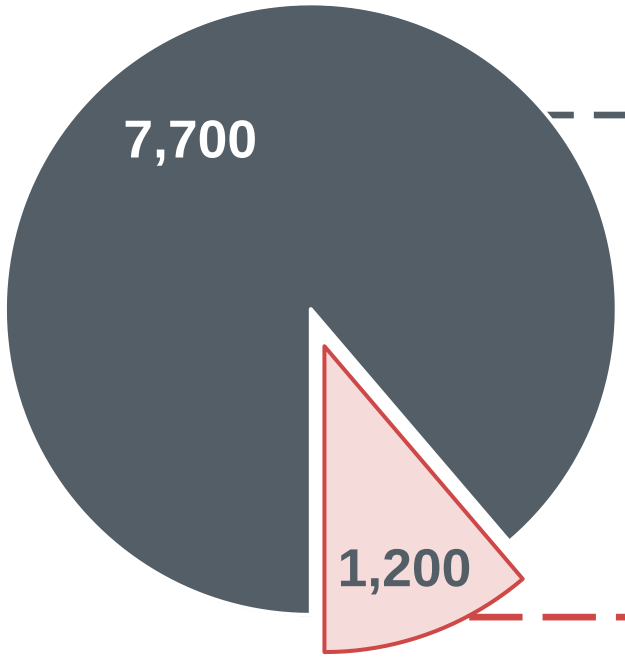
# Omidubicel

A potentially curative treatment candidate
for patients with hematologic malignancies
in need of an allogeneic stem cell transplant

gamida cell

# Allo-transplant is a potentially curative treatment option, and while a growing market, it is not without unmet needs

Allo-HSCT in the United States




Completed Transplants  Not Transplanted: Donor Reasons

**7,700 patients 12+ with hematologic malignancies** were transplanted in 2019, and that number is **projected to grow** due to increase in aging population, increased disease prevalence, earlier diagnosis, and accelerated referrals

Transplanters indicate that the number of patients **unable to find appropriate donors** is equivalent to **~13% of potential transplant volume**

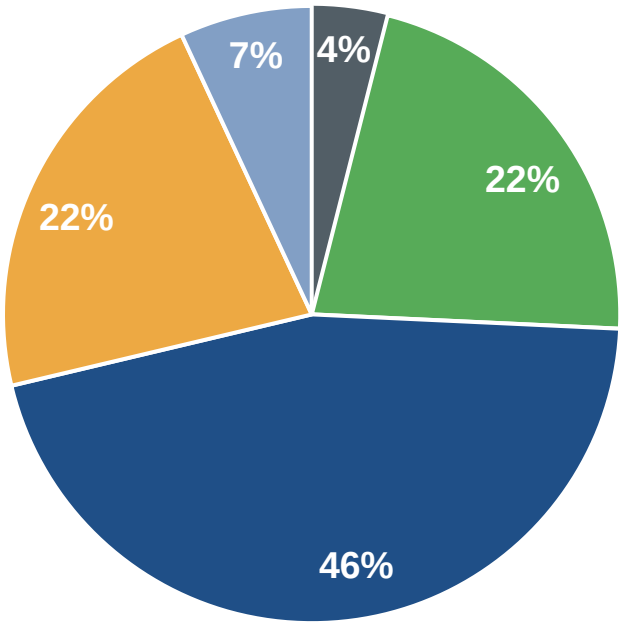


CIBMTR 2019, Gamida Cell Primary Market Research

# Each patient who receives an allo-HSCT must be uniquely paired with a donor source, and currently there is no standard of care

## Donor source usage rates are driven by HLA match*, availability, donor age, and timing

Donor Usage Rates (2019)



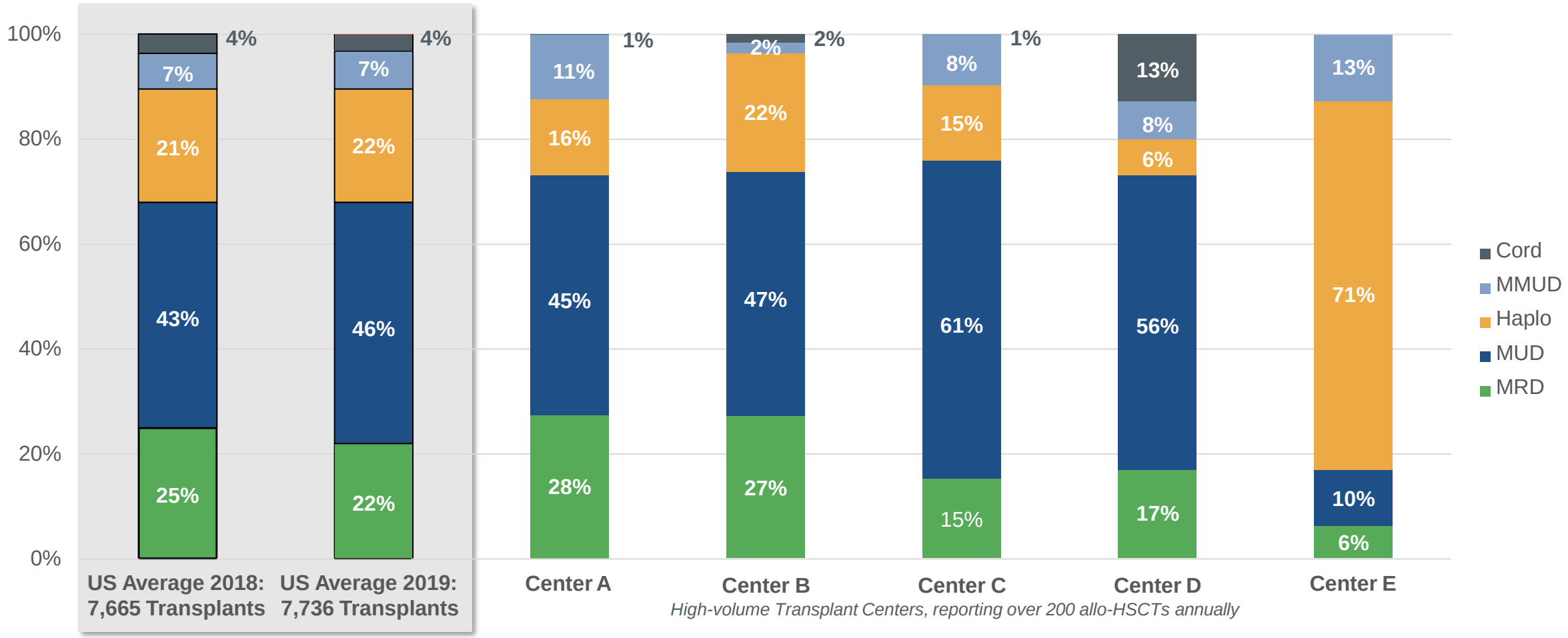

| | |
|---|---|
| **Matched Related Donor (MRD)** | **8/8 HLA-matched** cells from a **related** donor |
| **Matched Unrelated Donor (MUD)** | **8/8 HLA-matched** cells from an **unrelated** donor |
| **Haploidentical Donor (Haplo)** | **HLA-half matched** cells from a **related** donor |
| **Mismatched Unrelated Donor (MMUD)** | **Incompletely matched** cells from an **unrelated** donor |
| **Umbilical Cord Blood (UCB)** | **HLA matched, unrelated** stem cells identified through a cord blood bank |

*__HLA match__ refers to the process in which blood or tissue samples are tested for **human leukocyte antigens** (HLAs) to determine the **degree of matching** between the **donor and transplant recipient**.



CIBMTR 2019: allogenic transplants in patients 12+ years with hematological malignancies by center. Anon, NCI Dictionary of Cancer terms. National Cancer Institute. Available at: https://www.cancer.gov/publications/dictionaries/cancer-terms/def/hla-matching [Accessed December 27, 2021].

# With no standard of care, transplant centers differ in their use of donor source




 CIBMTR 2018 and 2019– allogenic transplants in patients 12+ years with hematological malignancies by center

gamida cell

# Donor source identification and selection is complex, and each source has limitations that omidubicel may address, if approved

| Matched Related Donor | Matched Unrelated Donor | Haploidentical Donor | Mismatched Unrelated Donor | Umbilical Cord Blood[1] |
|---|---|---|---|---|
| Recognized as the **gold standard** | Seen as the **next alternative** to MRD | **Extends chance** of finding a related donor | Registries provide **more options** | Readily available**, less stringent matching criteria** without the risk of increased GvHD[2] |
| • **70%** of patients will **NOT have an MRD**<br>• **Requires consideration of donor age, as older** donors are associated with **reduced overall survival (OS)** | • Likelihood of finding a match is **lower for minority groups**<br>• The search process averages 2-3 months, with **delayed acquisition significantly impacting patient outcomes** | • Use of PTCy reduces GvHD, but leads to **increased incidence of infection** and risk of **cardiotoxicity**<br>• Potential for **older donor age** also **negatively impacts outcomes** | • The decreased HLA match leads to **increased risk of GvHD**<br>• Patients face the same negative consequences as MUD when a **delay occurs** | • **Engraftment time is delayed** due to lower cell count, leading to increased risk of infection<br>• Patients face **additional hospitalization days** compared to other donor sources |

[1]Minority patients rely more heavily on UCB than white patients
[2] GvHD: Graft versus Host Disease

**Additional deliverability challenges for unrelated donors**

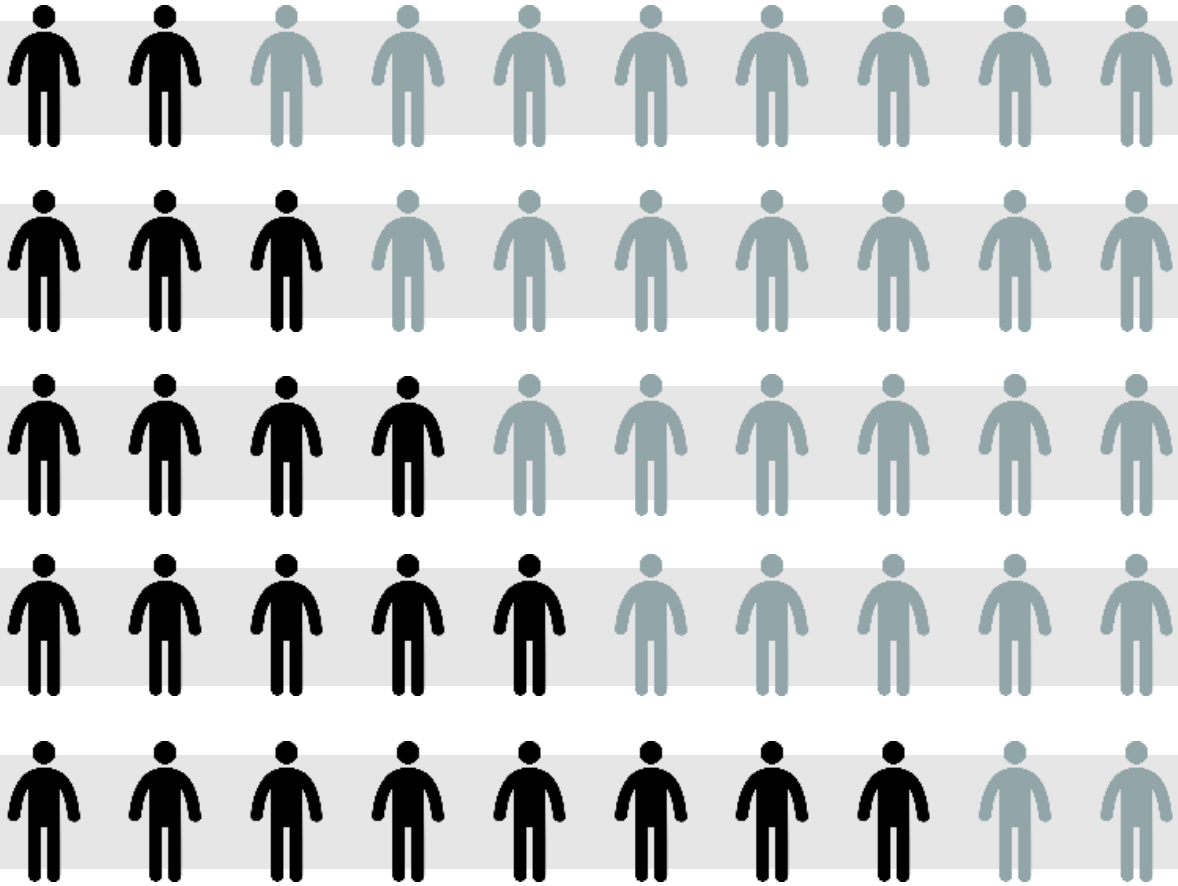
- Only **19-23%** of members on the BTM registry **go on to donate**
- Most transplant centers request a cleared donor within 4 weeks of a formal search, but only **29%** of patients have a cleared donor **by day 75**



Demand Estimation and Forecast Qualitative Report. 2020. Sugita, Junichi. HLA-haploidentical stem cell transplantation using posttransplant cyclophosphamide. International Journal of Hematology. 2019. CIBMTR 2018-2019 – allogenic transplants in patients 12+ years with hematological malignancies by center

# 70% of patients will not have a MRD and the likelihood of finding a MUD through a registry varies greatly by race

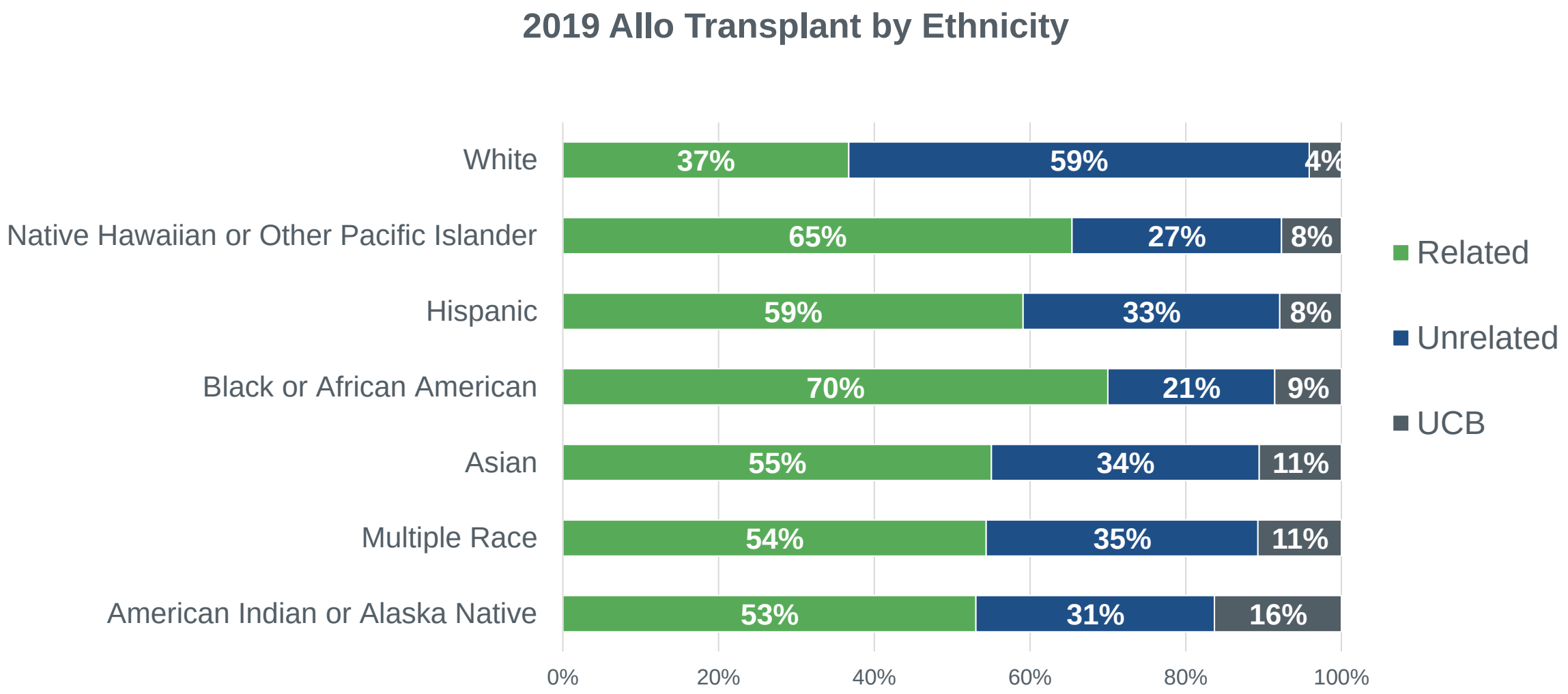
| | |
|---|---|
| Black Patients* | 16-19% |
| Asian Patients** | 27-42% |
| Hispanic Patients*** | 34-40% |
| White Patients of Middle Eastern or North African Descent | 46% |
| White Patients of European Descent | 75% |



* Includes African American, African, Black South or Central American, and Black Caribbean
** Includes Chinese, Korean, South Asian, Japanese, Filipino, Southeast Asian, and Vietnamese
*** Includes Mexican, Hispanic South or Central American, and Hispanic Caribbean


Gragert et al. N Engl J Med. 2014;371(4):339-348. CIBMTR Transplant Activity Report 2018

# Minority patients leverage MUD and MMUD less often, and UCB more often than white patients






Source: CIBMTR Transplant Activity Report 2019 (Table 20 and 21) including all allogenic transplants. “Related” includes MRD and haplo; “Unrelated” includes MMUD and MUD.

# If approved, omidubicel may address key unmet needs not addressed by today's donor source options

| | Unmet Needs | | Omidubicel Offering |
|---|---|---|---|
| **Match** | **~30%** | of patients will have an adequately matched related donor | **~93%** of omidubicel patients were able to **find a suitable donor** in the Phase 3 trial due to less stringent matching requirements |
| **Availability** | **~20%** | of African Americans find a matched unrelated donor in the registry database | If approved, omidubicel may **expand access** to previously underserved populations, and **minority patients** represented **~40% of patients** in the Phase 3 trial |
| **Donor Age** | **>30** | years old increases risk of complications and reduced OS | Omidubicel combines the naivety of cord blood with sufficient cell quantity that leads to **improved clinical outcomes** |
| **Timing Urgency** | **2-3+** | months from preliminary search to transplant | Omidubicel offers rapid availability and a reliable process, with a personalized product **delivered in 30 days** from selection of a cord blood unit |

1. Kindwall-Keller and Ballen. The Oncologist. 2017, 22;1125-1134. 2. Dehn et al. Blood. 2019, 134:924-934. 3. Wilkerson J. Science in the News. Published November 2019. Accessed November 2021. 4. Be The Match. Why Ethnicity Matters When Donating Bone Marrow. Accessed November 2021. 5. Be the Match. Five Year Strategic Plan 2019–2023. Published 2020. 6. Switzer et al. Bone Marrow Transplant. 1999;24(3):313-319. 7. DeZern et al. Blood Adv. 2021;5(5):1360-1368. 8. Ciurea et al. Blood Adv. 2018;2(17):2254-2261.

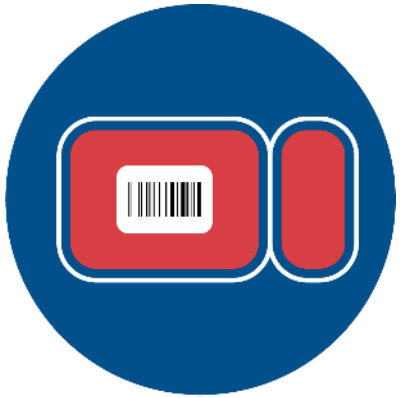
# Omidubicel

The latest data demonstrating the potential for cure

gamida cell

Omidubicel is investigational and safety and efficacy have not been established by any agency.

# Omidubicel is a personalized advanced cell therapy candidate consisting of a cultured and non-cultured fraction from a single umbilical cord blood unit



**Cord Blood Unit (CBU) Selected**

CBU selected by physician from US public cord blood bank

## Omidubicel

**Cultured Fraction**

NAM-enhanced population of CD34+ hematopoietic stem cells

+

**Non-Cultured Fraction**

Immune cells, including T cells

**Omidubicel Infusion**

Reliable delivery in 30 days from order

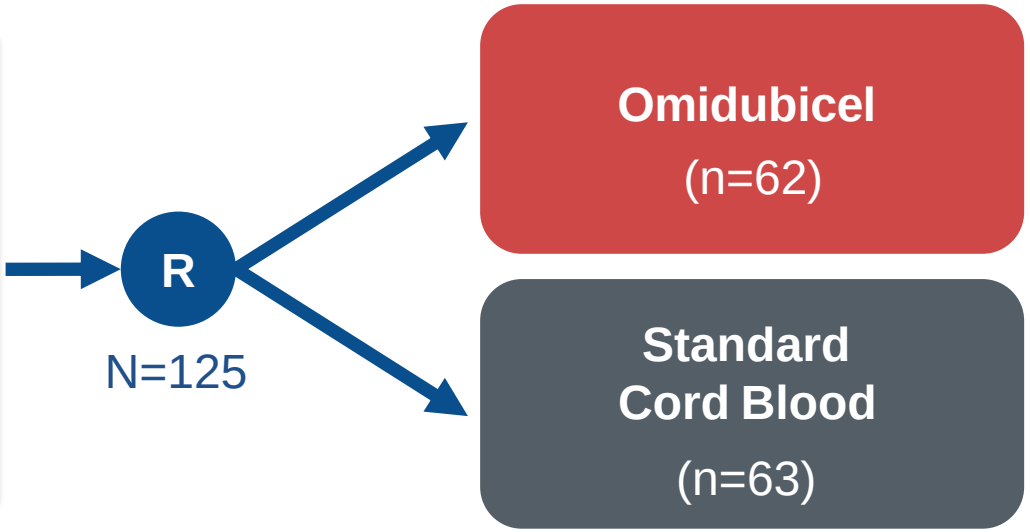


Horwitz et al. Blood. 2021;138:1429-1440.

# Phase 3 global randomized study to evaluate the efficacy of omidubicel compared to standard cord blood

## Randomized, Controlled, Multi-center, Global Phase 3 Registration Trial

- **Age 12-65**
- **High-risk hematologic malignancies**
- **Eligible for allo-HSCT**
- **No readily available matched donor**




**Primary endpoint:** Time to neutrophil engraftment

**Secondary endpoints:** Platelet engraftment, infections, hospitalizations

**Additional endpoints:** Adverse events, acute GvHD, chronic GvHD, non-relapse mortality, disease-free survival, overall survival

**>40%** of patients in the trial were **ethnically diverse**



Horwitz et al. Blood. 2021;138:1429-1440.

# PRIMARY ENDPOINT: Time to Neutrophil Engraftment (ITT)

| Intent-to-treat | Median Time to Neutrophil Engraftment (Days)[a] | 95% CI | *P* Value |
|---|---|---|---|
| Omidubicel (N=62) | 12.0 | (10.0, 14.0) | <0.001[b] |
| Cord Blood (N=63) | 22.0 | (19.0, 25.0) | |

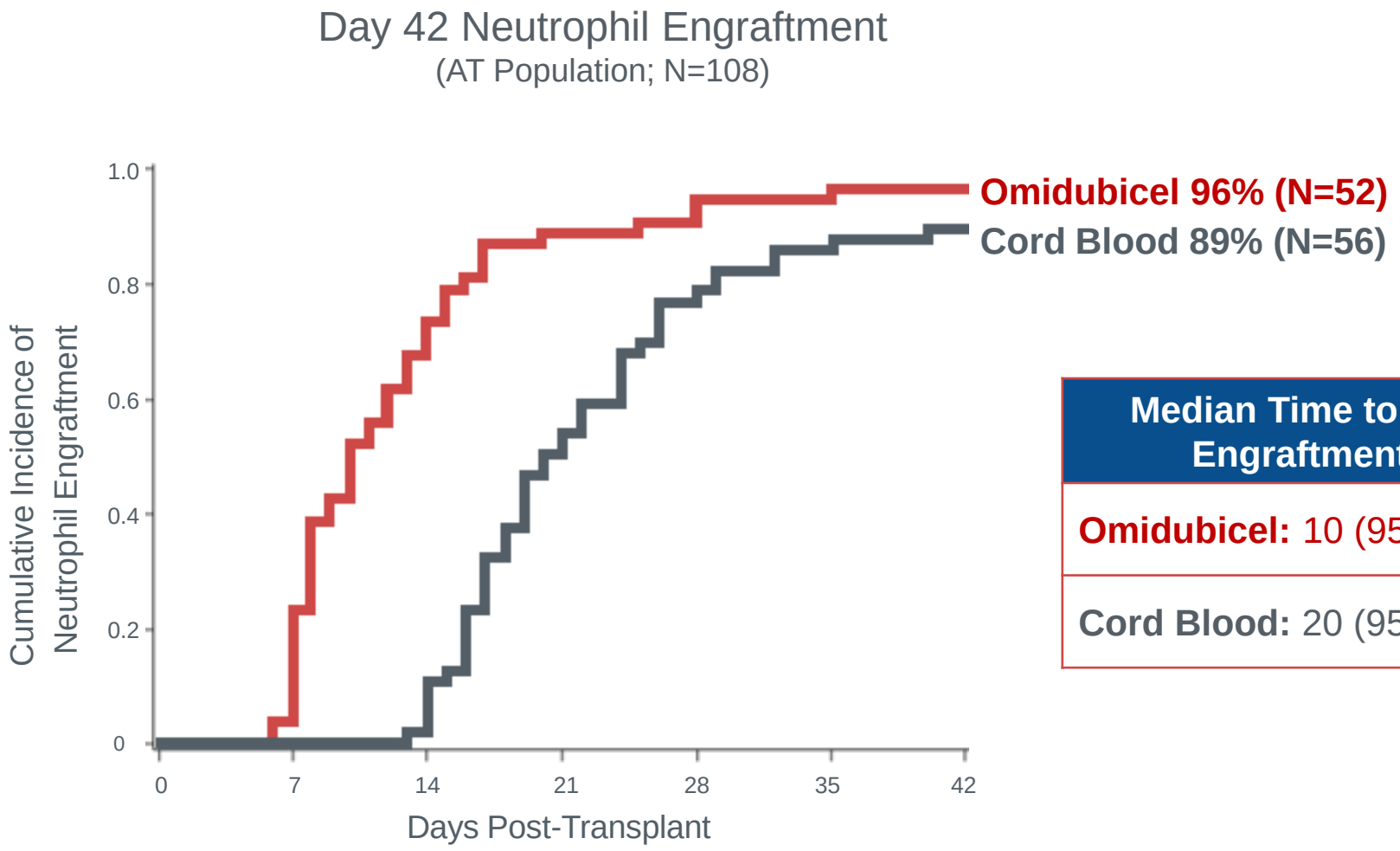
**Engraftment** is a key milestone in recovery

**Rapid engraftment** is associated with fewer infections and shorter hospitalizations[1]



ITT, intent-to-treat. Horwitz et al. Blood. 2021;138:1429-1440.

# Significantly faster time to neutrophil engraftment in as-treated population

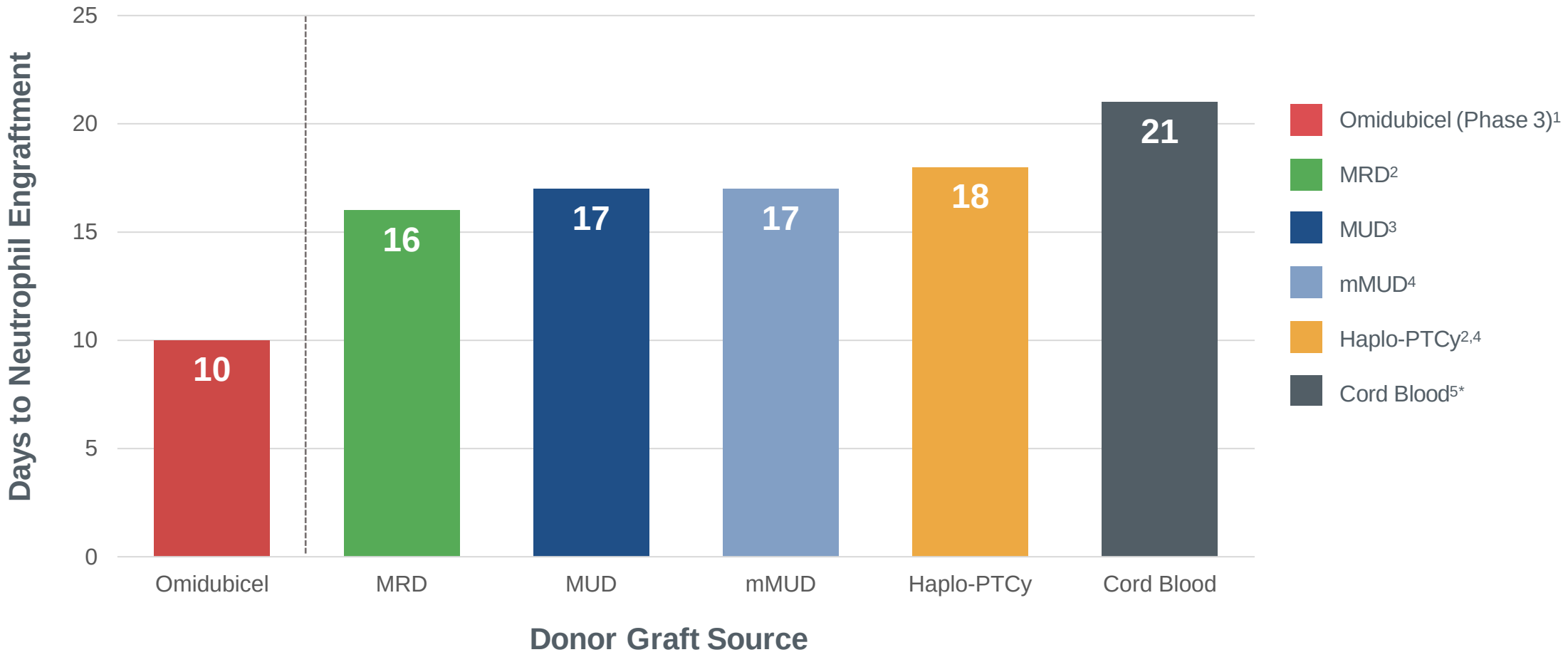



| Median Time to Neutrophil Engraftment (Days) | *P* value |
|---|---|
| **Omidubicel:** 10 (95% CI: 8, 13) | <0.001 |
| **Cord Blood:** 20 (95%CI: 18, 24) | |



AT, as-treated. Horwitz et al. Blood. 2021;138:1429-1440.

# Omidubicel has the shortest neutrophil engraftment time compared to published results for other HSCT donor sources




* Results represent double-cord transplants



1. Horwitz et al. Blood. 2021;138:1429-1440. 2. Salvatore D, et al. Haematologica. 2018; 103(8):1317-28; 3. Mary M. Horowitz, MD, MS. Haploidentical Transplantation: The Answer to our Donor Problems? CIBMTR, Medical College of Wisconsin. January 2017; 4. McCurdy SR, et al. Adv Hematol. 2015; 1-9.; 5. Horwitz ME, et al. J Clin Oncol. 2018; 37(5):367-74.

# SECONDARY ENDPOINT: Platelet Engraftment (ITT)

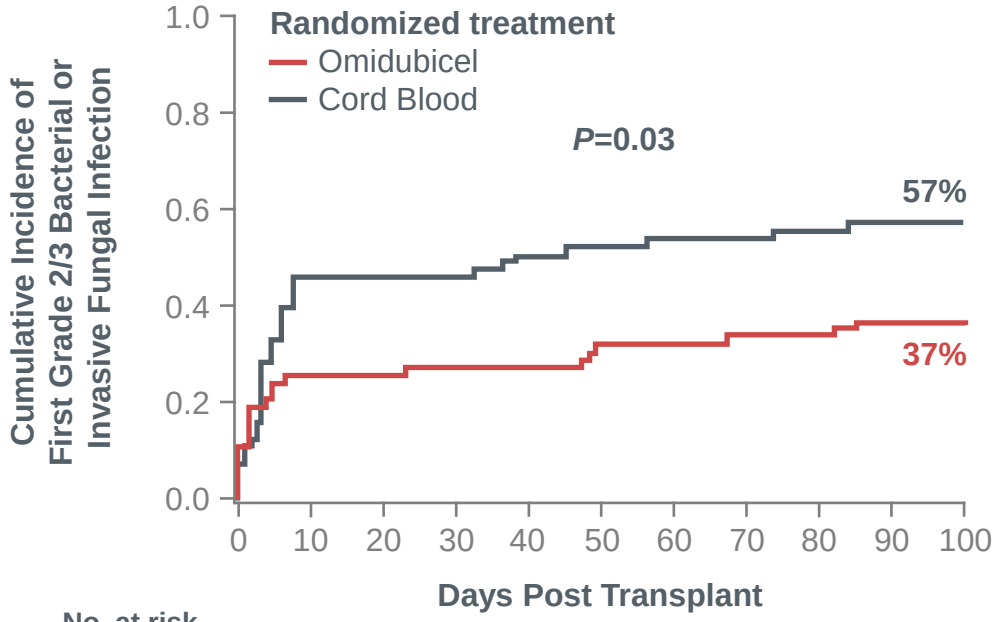
**Platelet Engraftment by Day 42 (ITT; N=125)**

| Intent-to-treat | Day 42 Cumulative Incidence | Difference in Cumulative Incidence (95% CI) | *P* Value |
|---|---|---|---|
| Omidubicel (N=62) | 0.55 | 0.2 (0.03,0.35) | 0.028 |
| Cord Blood (N=63) | 0.35 | | |

ITT, intent-to-treat. Horwitz et al. Blood. 2021;138:1429-1440..

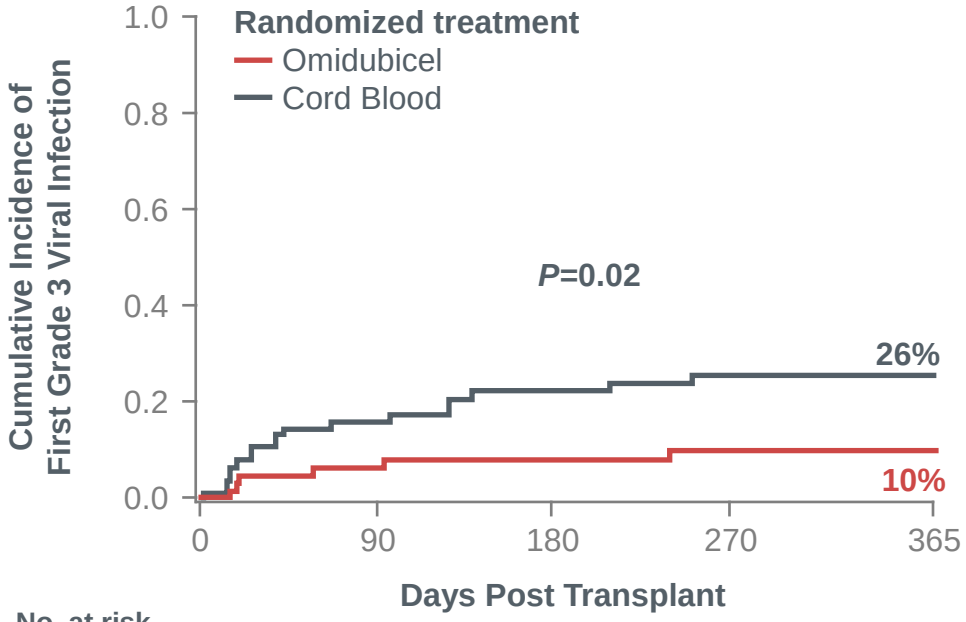
# Transplant With Omidubicel: Reduced Risk of Bacterial, Fungal, and Viral Infections

**Incidence of First Grade 2/3 Bacterial or Invasive Fungal Infections in ITT (N=125)**




| No. at risk | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Omidubicel | 62 | 46 | 46 | 45 | 43 | 42 | 39 | 38 | 37 | 35 | 33 |
| Cord Blood | 63 | 34 | 34 | 34 | 30 | 29 | 27 | 27 | 26 | 25 | 25 |

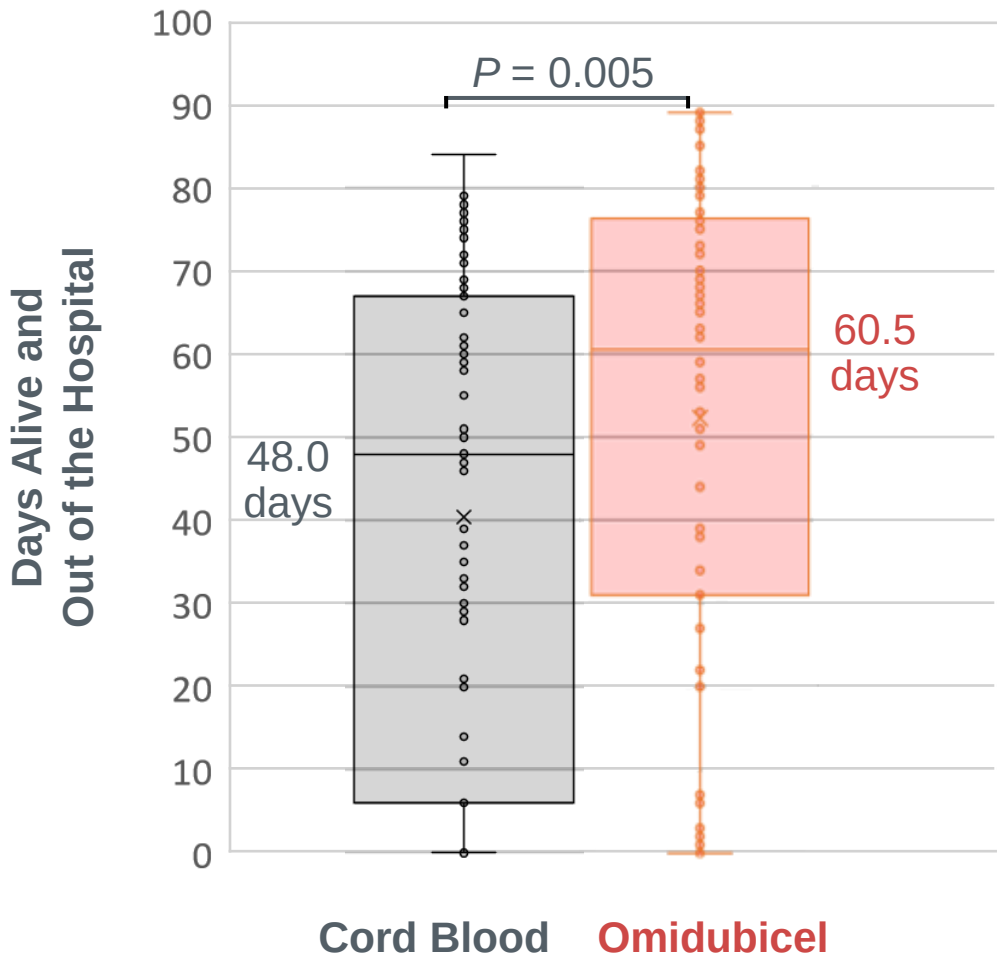
**Incidence of First Grade 3 Viral Infection in ITT (N=125)**




| No. at risk | | | | | |
|---|---|---|---|---|---|
| Omidubicel | 62 | 55 | 46 | 36 | 28 |
| Cord Blood | 63 | 48 | 36 | 27 | 19 |

ITT, intent-to-treat; Horwitz et al. Blood. 2021;138:1429-1440.

# SECONDARY ENDPOINT:
# Omidubicel significantly reduced total hospitalization in first 100 days (ITT)






ITT, intent-to-treat. Horwitz et al. Blood. 2021;138:1429-1440.

gamida cell

# Robust immune reconstitution was demonstrated across multiple innate immune cells: *Selected as a Best Abstract TCT 2022*

**Sub-study of the Phase 3 trial (n=37): 17 omidubicel, 20 standard cord blood**

**Robust early recovery observed**
for T cell, B cell, NK cell, and dendritic cell subsets
(Day 0-28)

**Durability of recovery observed**
for up to 1 year post-transplant
(Day 100-365)

**Potential mechanistic support for the lower rates of severe infection observed in patients treated with omidubicel**



Szabolcs P, Levy S, Yackoubov, D, et al. Hematopoietic Stem Cell Transplantation (HSCT) With Omidubicel Is Associated With Robust Immune Reconstitution and Lower Rates of Severe Infection Compared to Standard Umbilical Cord Blood Transplantation. Oral presentation at: 2021 ASH Annual Meeting and Exposition; December 2021; Atlanta, GA.

# Outcomes suggest potential for significant reductions in healthcare resource utilization in the first 100 days post-transplant with omidubicel

## Comparative results in first 100 days post-transplant

| | Omidubicel (n=52) | Cord Blood (n=56) | *P-value* |
|---|---|---|---|
| Incidence of acute GvHD | 15% | 20% | 0.563 |
| Mean total number of inpatient days during primary hospitalization (transplant to discharge) | 27.7 | 39.8 | <0.001 |
| Mean total number of inpatient days (includes readmissions) | 41.2 | 50.8 | 0.027 |
| Mean total days alive and not hospitalized | 55.8 | 43.7 | 0.023 |
| Mean total number of days in the ICU | 0.4 | 4.7 | 0.028 |
| Average number of transfusions per patient | 24.8 | 35.4 | 0.005 |
| Average number of consultant visits** | 6.8 | 20.1 | 0.015 |

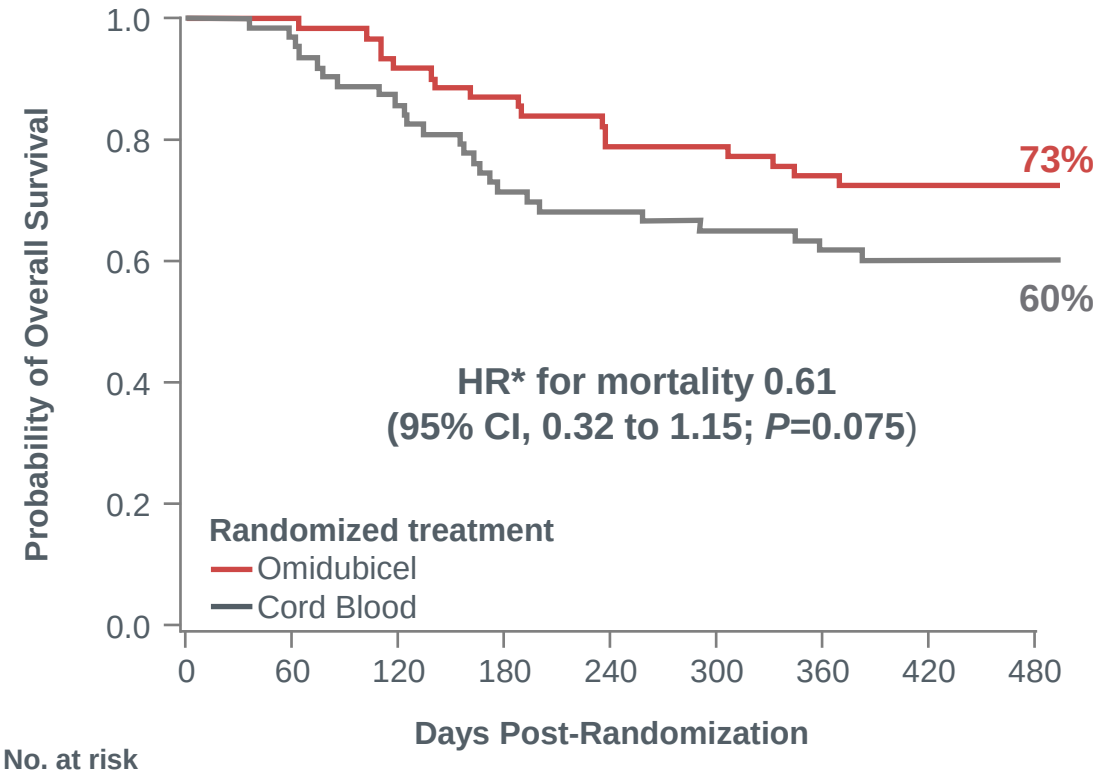
* AT Population; N=108
** e.g. ID, dermatology, GI, cardiology, neurology, surgery


*Majhail N et al Blood* (2021) 138 (Supplement 1): 4036. DOI: https://doi.org/10.1182/blood-2021-147480

# Overall Survival of 73% after one year of follow-up post-transplantation

## At 1 year post transplantation, a 13% increase in OS with omidubicel (95% CI: –5% to 28%; P=0.13)

**Overall Survival by 1 Year Post Transplantation in ITT (N=125)**




| No. at risk | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Omidubicel | 62 | 62 | 57 | 54 | 49 | 49 | 46 | 45 | 10 |
| Cord Blood | 63 | 61 | 54 | 43 | 43 | 41 | 39 | 38 | 16 |

*A post hoc analysis utilized a Cox Regression Model. CI, confidence interval; HR, hazard ratio; ITT, intent-to-treat; OS, overall survival. Horwitz et al Trans Cell Ther. 2022; 28 Issue 3,[suppl]: S250–S 251.



gamida Cell

# The totality of the omidubicel data powers our commitment to cures

- Ability to identify matches for patients of racial minorities
- Shortest neutrophil engraftment time compared to published results for other donor sources
- Shorter time to platelet engraftment
- Reduced cumulative incidence of infection
- Reduced hospitalization time for patients
- Trend to improved overall survival

**BLA Accepted for Priority Review, PDFUA date January 30, 2023**



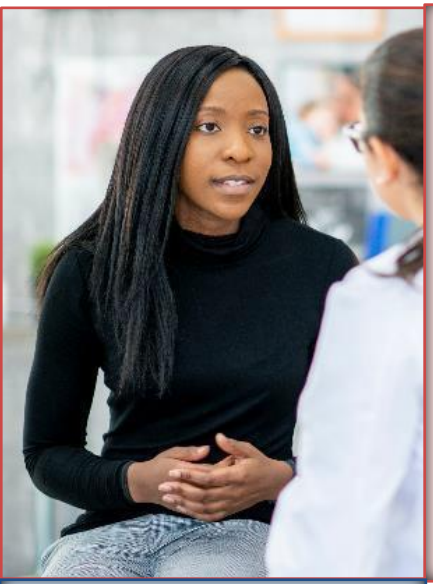
Horwitz et al. Blood. 2021;138:1429-1440..

# Omidubicel

Preparing for potential commercial launch

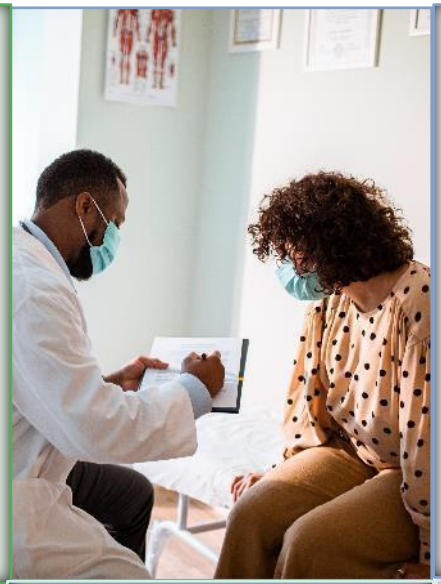
gamida cell

# If approved, omidubicel may provide transplanters the opportunity to offer a potential cure to patients in need



A minority patient with no timely MRD, MUD, or haplo option

A patient with matched siblings who are of advanced age and only mismatched donors identified in the registry



A patient with an MRD available, but social barriers present dangerous risk of delay

A patient with an identified unrelated donor who has an inflexible schedule and an HCP seeking a faster path to transplant

A patient with a CBU identified and an HCP concerned about engraftment time and infection risk

A patient with a haploidentical sibling and an HCP concerned about infection risk



Patient profiles represent potential patients only.

# We are actively navigating reimbursement dynamics and payer coverage considerations

**Gamida Cell is proactively educating payers that account for 90% of U.S. covered lives**

**We anticipate coverage at the time of approval…**

*Published data supports that ~100% of U.S. payers anticipate covering one-time therapies with curative intent*

*Gamida has a strong understanding of the reimbursement approach that payers will take upon omidubicel FDA approval*

**…and a pathway to reimbursement**

# Our commercial manufacturing facility will ensure consistent and reliable product supply

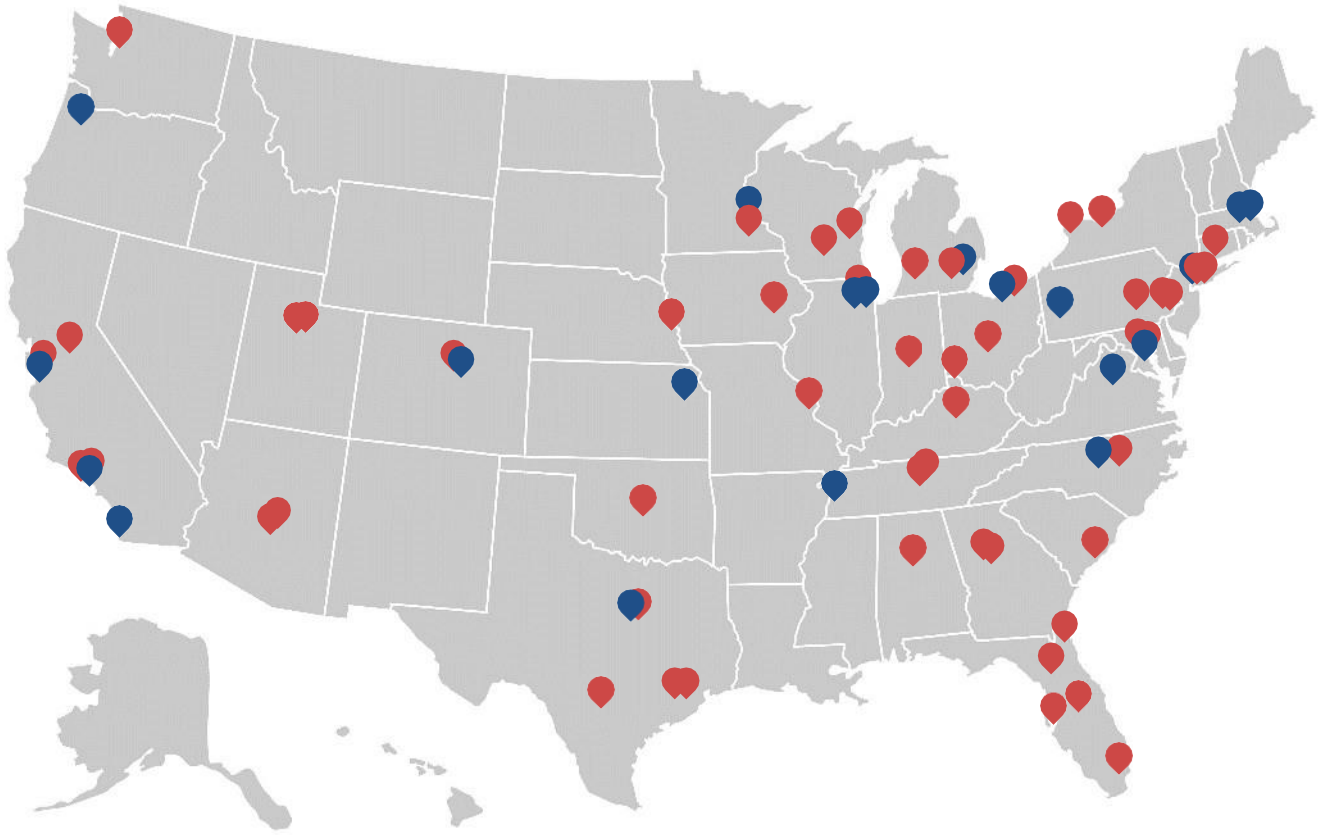
- State-of-the art facility in Israel
- Modular facility with capability to add capacity
- Personalized product delivered within 30 days of selection of cord blood unit

*Photos of Gamida Cell's state-of-the-art facility*



Horwitz ME et al. *JCIN*. 2014.

# We have initiated partnerships to educate and onboard Transplant Centers across the United States



**Approximately 70 Transplant Centers account for ~80% of allo-HSCTs performed in U.S.**

- Transplant Centers
- Omidubicel Clinical Trial Sites



gamida cell

# If approved, omidubicel may improve outcomes and increase access for patients

**A quantitative demand study was conducted with 109 transplant physicians across the U.S.**

## If approved, omidubicel may:

**Improve outcomes** across all current donor sources

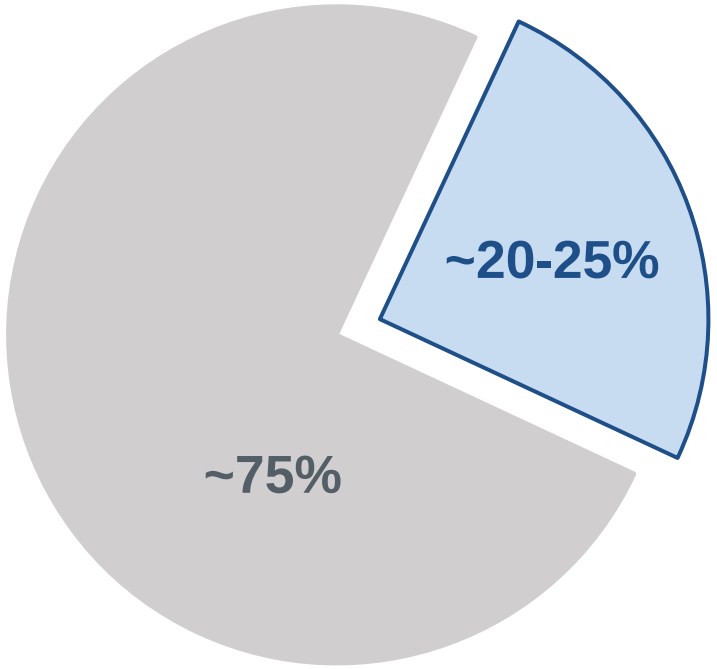
- Positive clinical outcomes
- Removed concern of advanced donor age
- Personalized product delivered within 30 days

**Increase access** for those patients not transplanted today

- Ability to find a suitable donor
- Improved access for minority patients
- Rapid and reliable availability

# If approved, omidubicel may achieve ~20-25% of the market at peak

**~11,000 patients with hematologic malignancies are expected to receive allo-HSCT in 2026***




**If approved, omidubicel has the potential to impact ~2,000-2,500 patients by**

- increasing the number of patients able to access an appropriate donor and,
- being a preferred choice over other donor options

*Reflects 2025-2026 peak estimate; includes patients 12+

All Other Donor Sources  Omidubicel



gamida cell

# GDA-201

NAM-enabled NK cell candidate to treat Non-Hodgkin Lymphoma

gamida cell

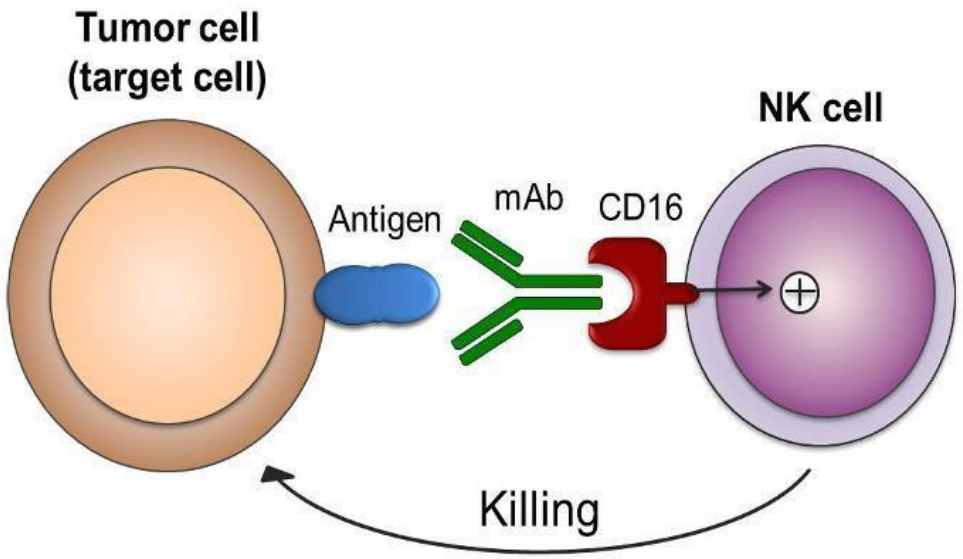
GDA-201 is investigational and safety and efficacy have not been established by any agency.

# Natural Killer (NK) cells are a promising immune therapy for cancer

## Promise of NK Cells

- Fully allogeneic product (no HLA matching required)
- Synergy with antibodies
- Potential to stimulate adaptive immunity
- Potential for readily available therapy

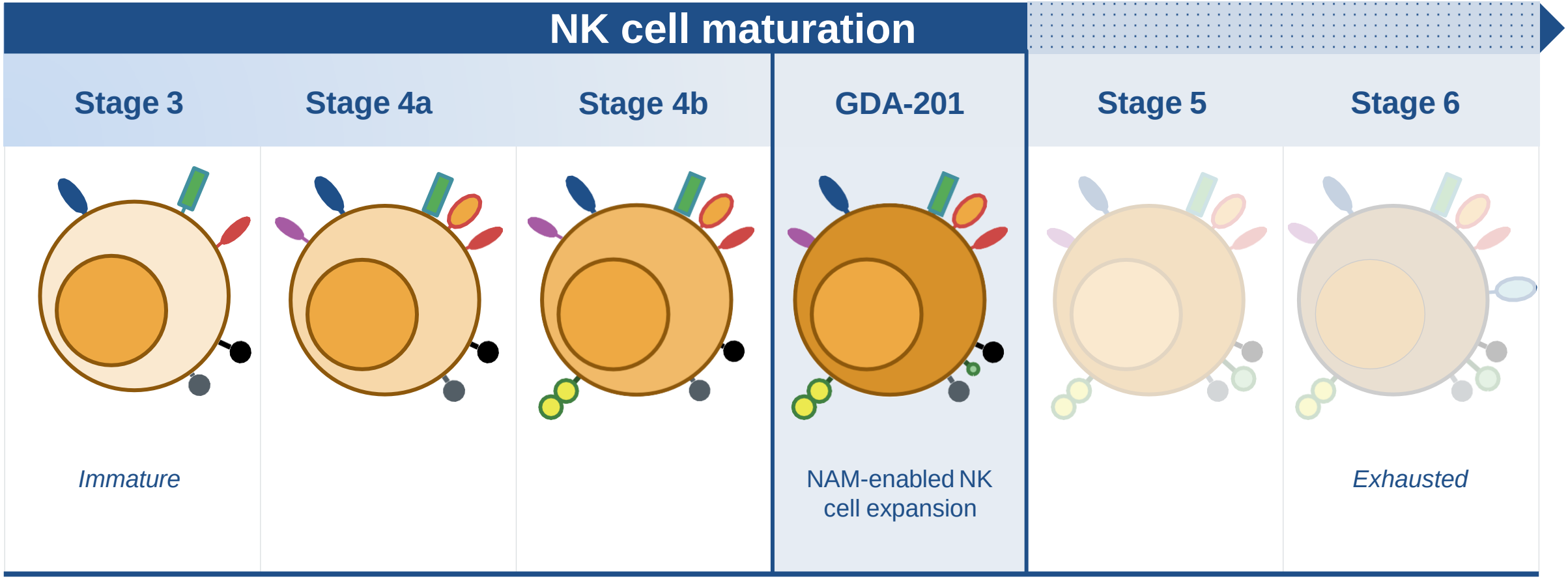
## NK Cell Function




**Cell expansion is necessary to obtain clinically meaningful doses with optimized cell function**

# We are putting NK cells to work using our NAM Platform

## NAM optimizes NK cell phenotype during manufacturing to ensure product functionality

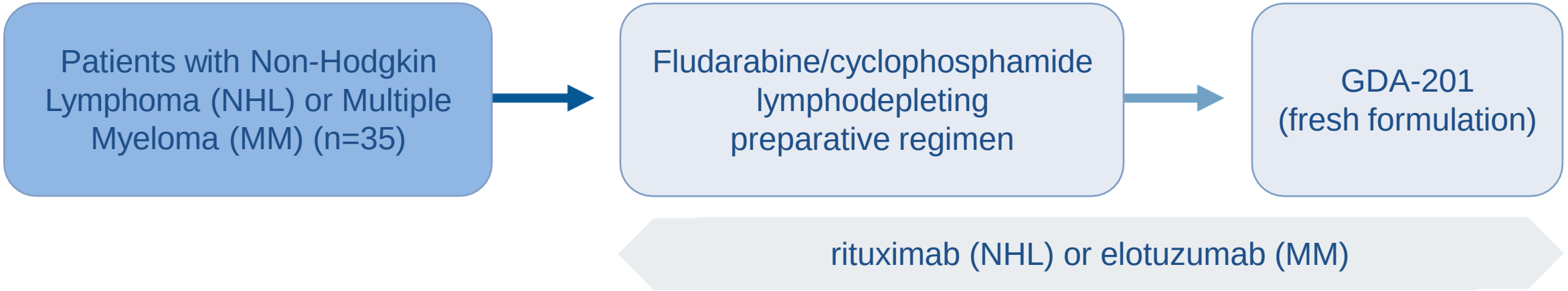





Natural Killer Cells: Development, Maturation, and Clinical Utilization. *Frontiers in Immunology*, 2018

# GDA-201: A first-in-class NAM-enabled NK cell therapy candidate

**Investigator-led, Phase 1, proof of concept study for patients with NHL and MM**




- **Primary endpoint:** Maximum tolerated dose of GDA-201
- **Secondary endpoints:** Overall response, toxicity



Bachanova et al., ASH 2021. https://clinicaltrials.gov/ct2/show/NCT03019666

# Phase 1 experience with GDA-201 and rituximab demonstrated a positive safety profile

## Safety Results

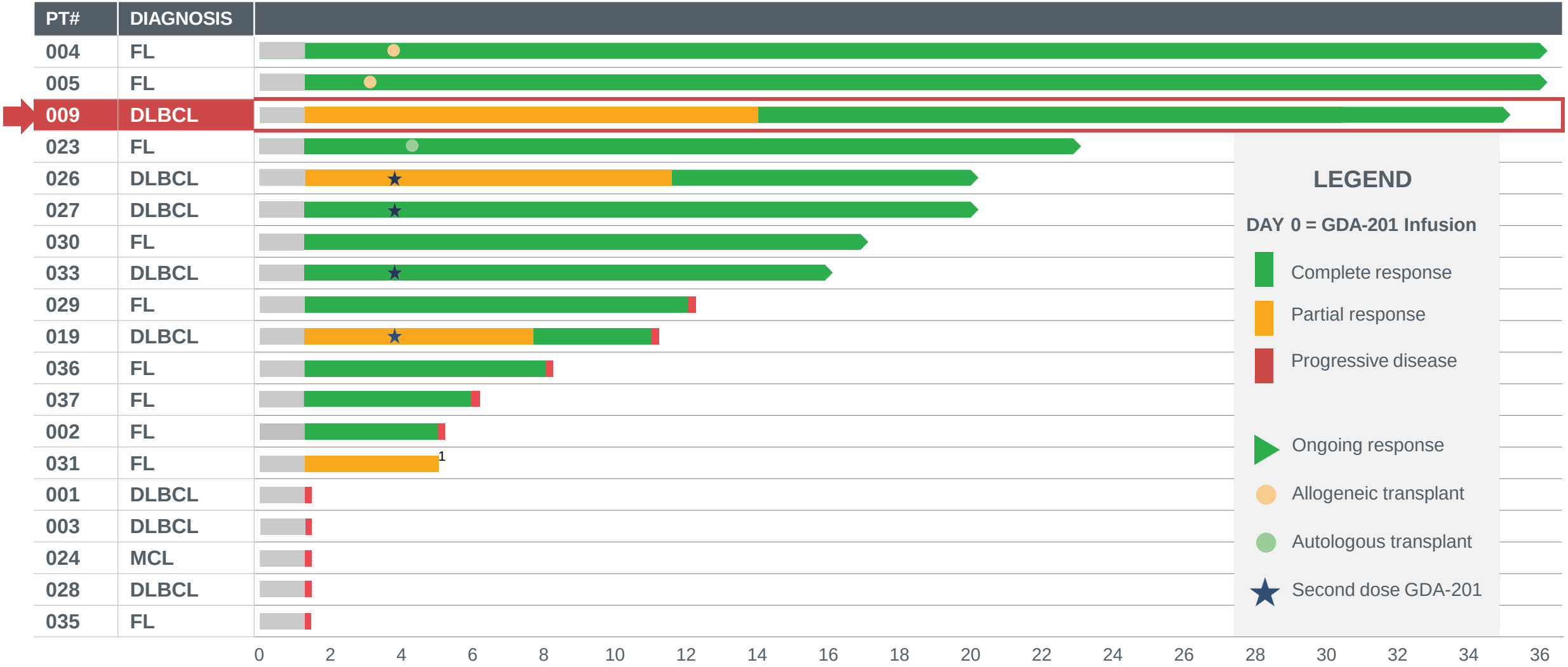
- 35 patients treated (19 NHL, 16 MM)
- No dose-limiting toxicities
- Most common grade 3/4 adverse events:
  - Thrombocytopenia (n=9)
  - Hypertension (n=5)
  - Neutropenia (n=4)
  - Febrile neutropenia (n=4)
  - Anemia (n=3)
- No neurotoxic events, graft versus host disease (GvHD), or confirmed cytokine release syndrome
- One patient died of E. coli sepsis, initially reported as cytokine release syndrome



Bachanova et al., ASH 2021.
NHL: non-Hodgkin lymphoma; MM: multiple myeloma; CRS: cytokine release syndrome

# Multiple patients treated with GDA-201 and rituximab had durable complete responses demonstrating an ORR of 74% and CR rate of 68%

**Median Duration of Response: 16 months**



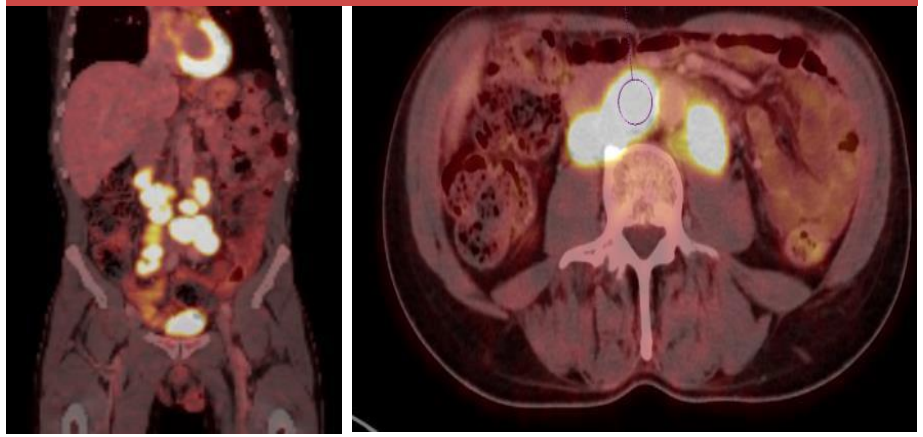



Bachanova et al., ASH 2021. DLBCL: diffuse large B-cell lymphoma; FL: follicular lymphoma; LD: lymphodepleting; MCL: mantle cell lymphoma. 1. Died of Covid.

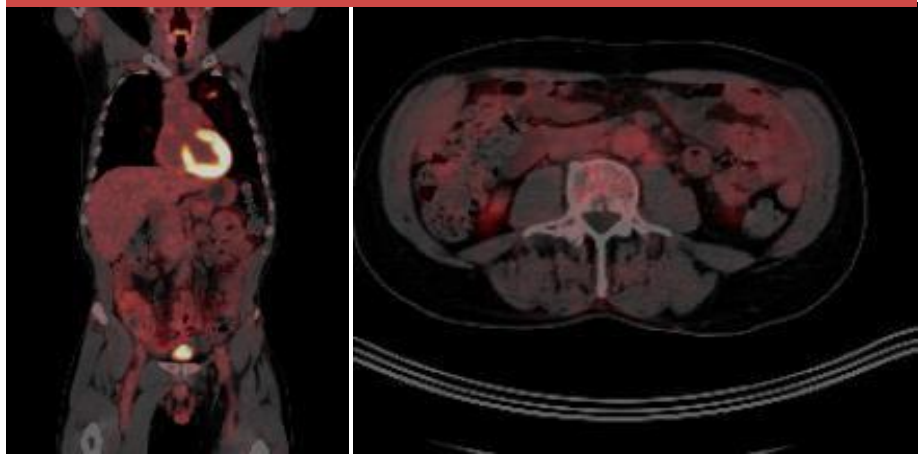
gamida cell

# Additionally, in a heavily pretreated lymphoma patient, complete responses were demonstrated

**Pt 009**: Baseline



**Pt 009:** 6-month post GDA-201



- 57-year-old man with history of CLL and Richter's transformation-large cell lymphoma, measurable retroperitoneal lymph nodes at baseline
- Prior therapy: FCR-light, Rituximab/Bendamustine Ibrutinib/lenalidomide, R-CHOP, Venetoclax/Rituximab
- Allogeneic HSCT (matched sibling)
- Relapse at 6 months
- Treated with GDA-201
- 28-day response: tumor shrinkage
- 6 months: PR with continued tumor shrinkage
- Demonstrated PR to CR conversion after 12 months, continued CR at ~3 years
- NK cells cleared within 2 weeks

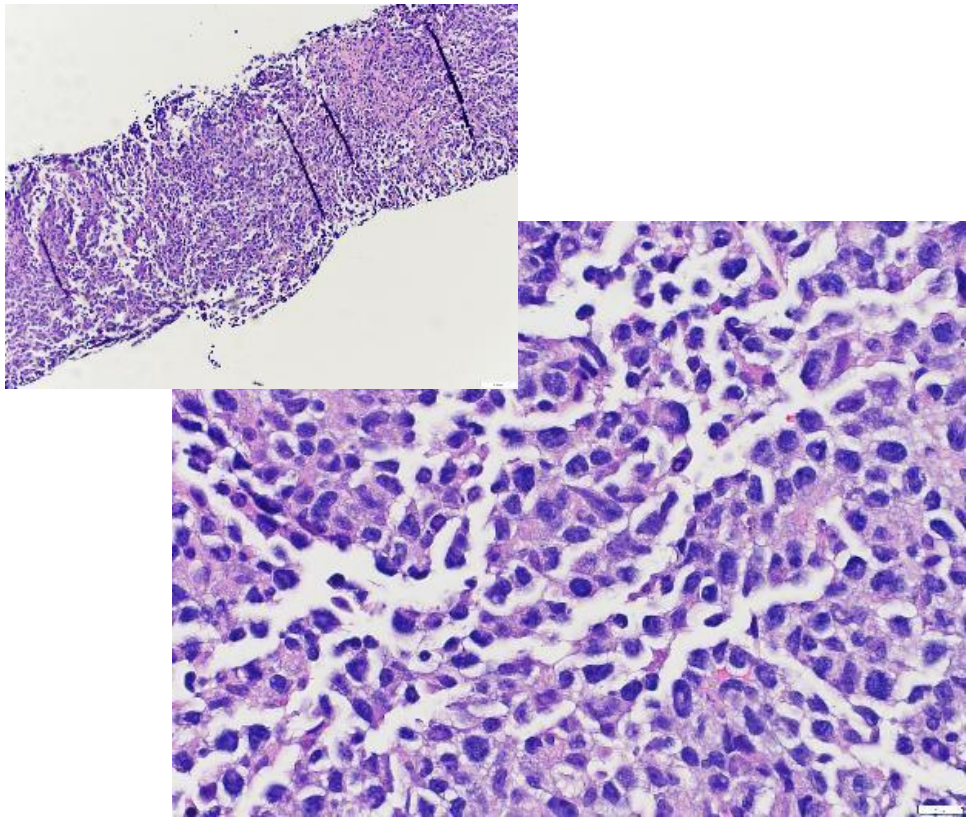
"Whether it has been work, or my various hobbies and past times, whether that be traveling on motorcycle or enjoying life to its fullest, it really has been a noticeable improvement compared to how things were prior to going through the trial."- **Patient 009**



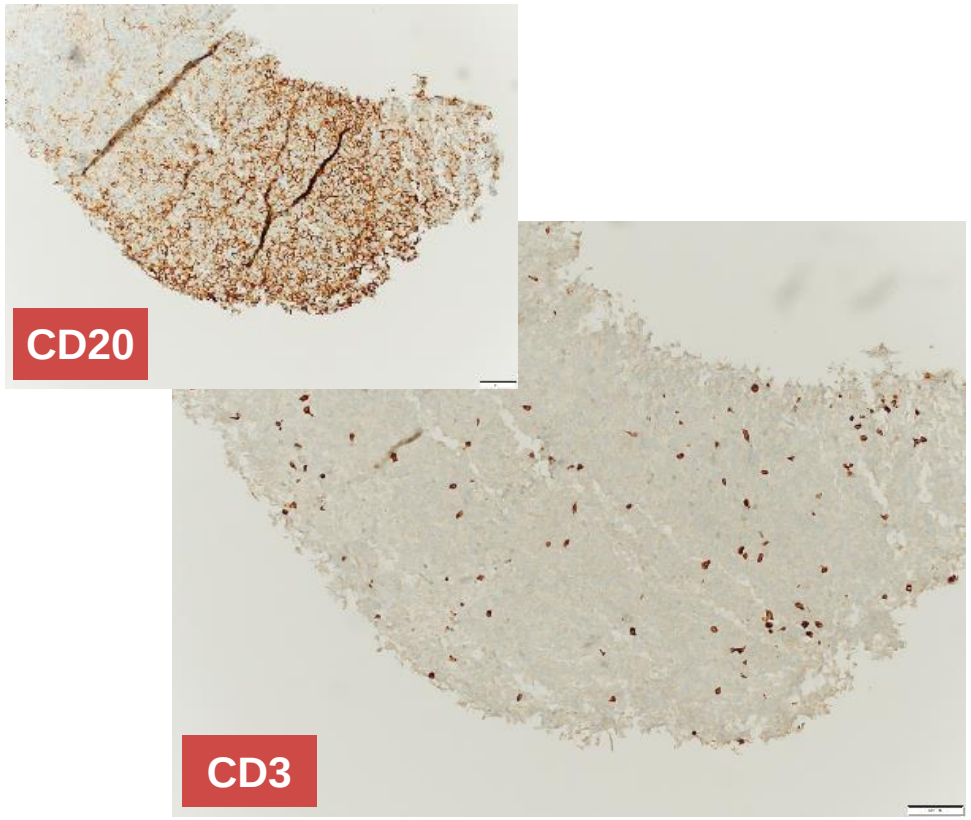
Bachanova et al. ASH 2019. This is one patient and results may not be indicative. GDA-201 is investigational and safety and efficacy have not been established by any agency.

# Patient 009: Pre-treatment tumor biopsy

**Histology Consistent with Non-Hodgkin Lymphoma**



**CD20+ B-cell Lymphoma**

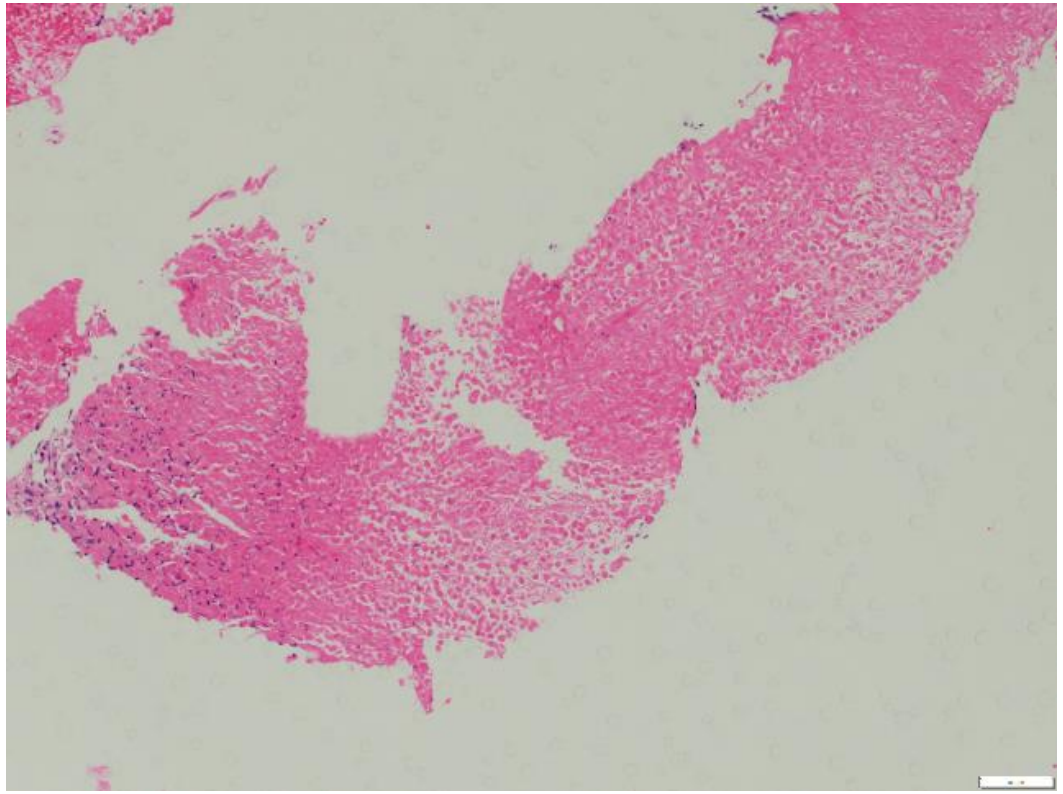


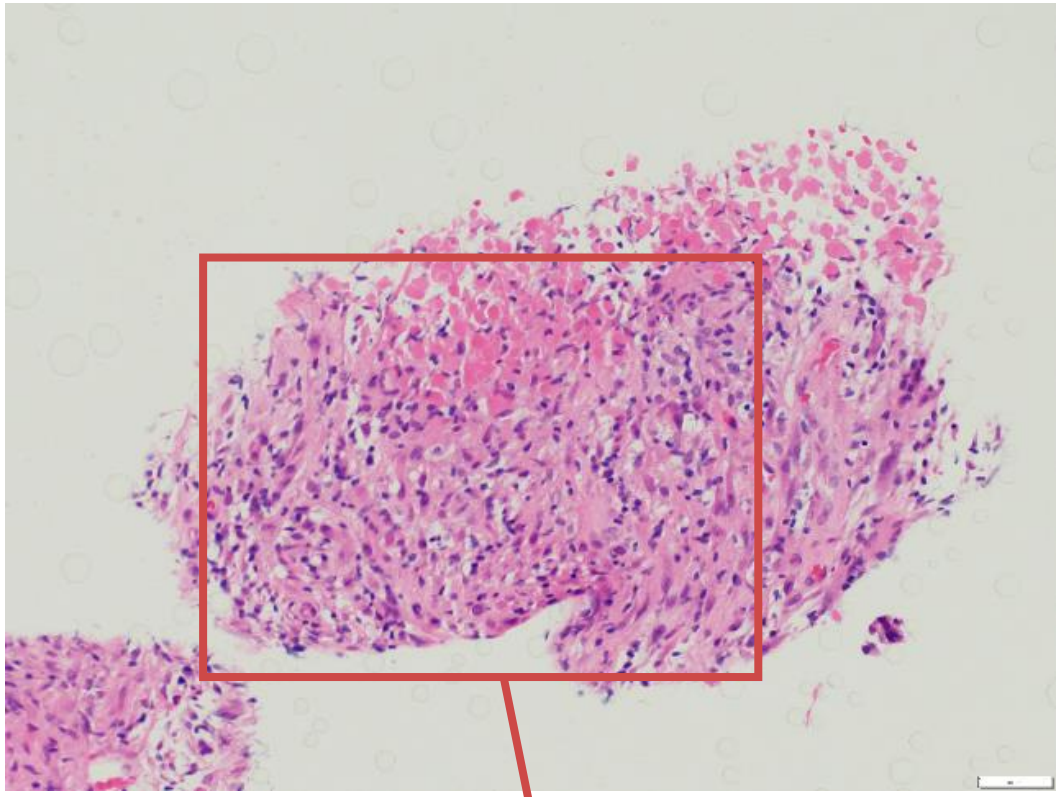



Courtesy of Bartosz Grzywacz M.D. Bachanova et al , Presented at Plenary Session 12 at the 3rd International Meeting Advances in Malignant Lymphoma Jun 2022

# Patient 009: Post-treatment day 16 biopsy

## Necrotic lymphoma cells with ensuing tissue organization and fibrosis with inflammatory infiltrates





**Area shown in CODEX images on the following slides**

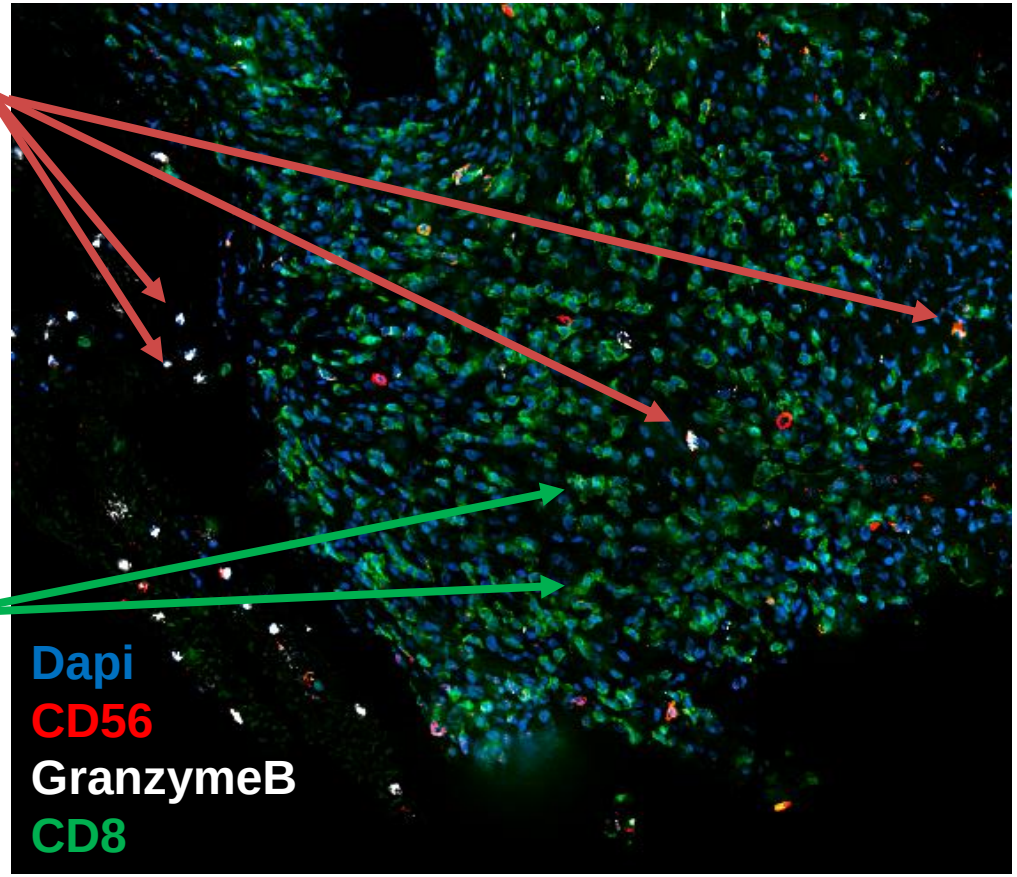


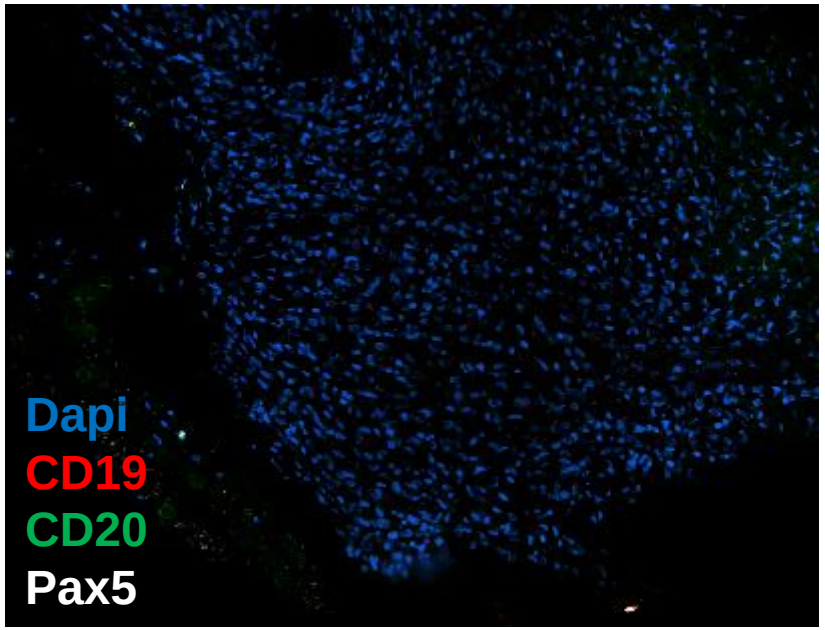
Courtesy of Bartosz Grzywacz M.D. Bachanova et al , Presented at Plenary Session 12 at the 3rd International Meeting Advances in Malignant Lymphoma Jun 2022

# Patient 009: Detection of NK cells in tissues by CODEX after GDA-201

NK cells

T cells



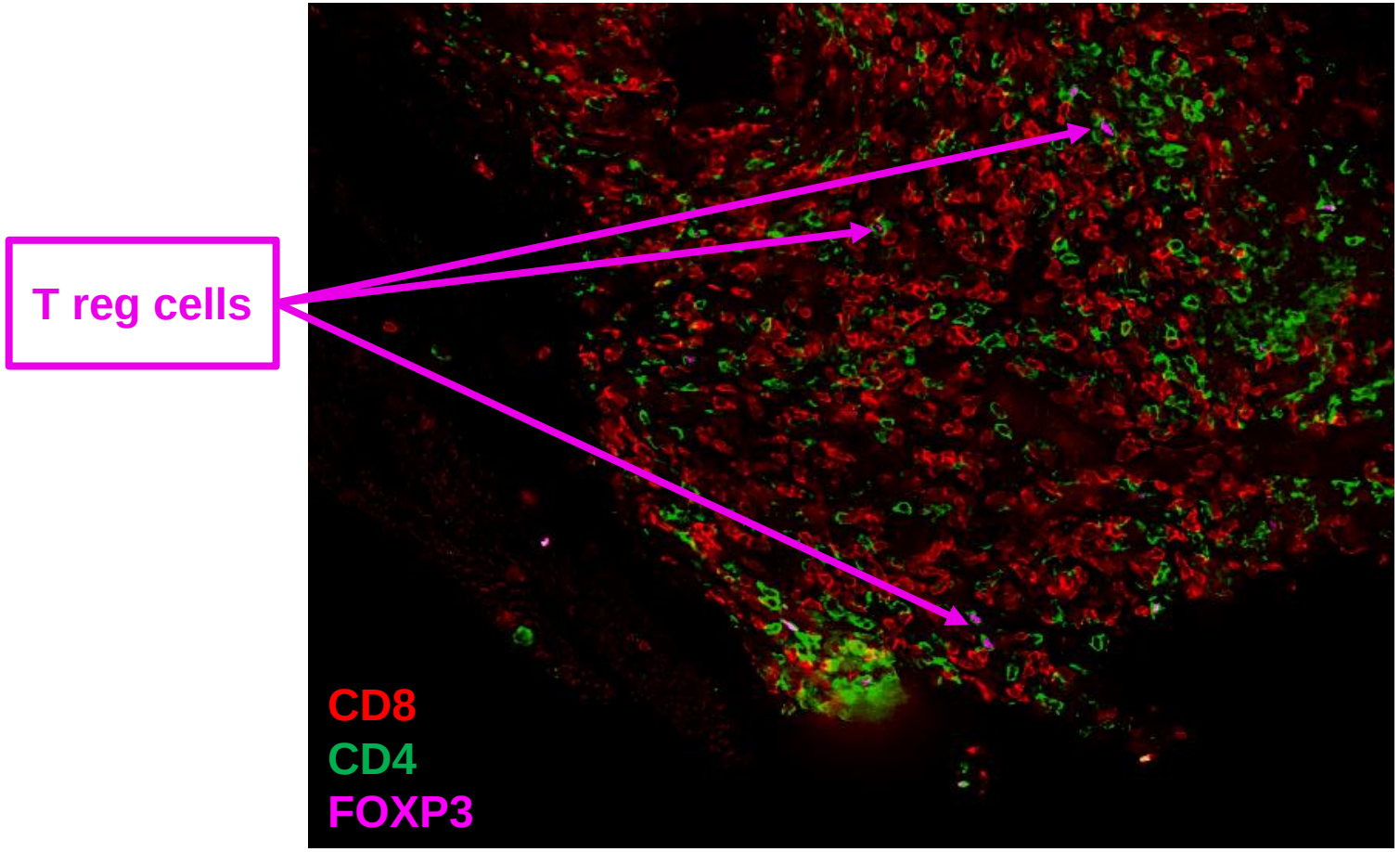




**B-cell markers are negative, consistent with eradication of B-cell tumor**



Courtesy of Bartosz Grzywacz M.D. Bachanova et al , Presented at Plenary Session 12 at the 3rd International Meeting Advances in Malignant Lymphoma Jun 2022

# Patient 009: T-cell infiltrate predominates in post-treatment tumor biopsy





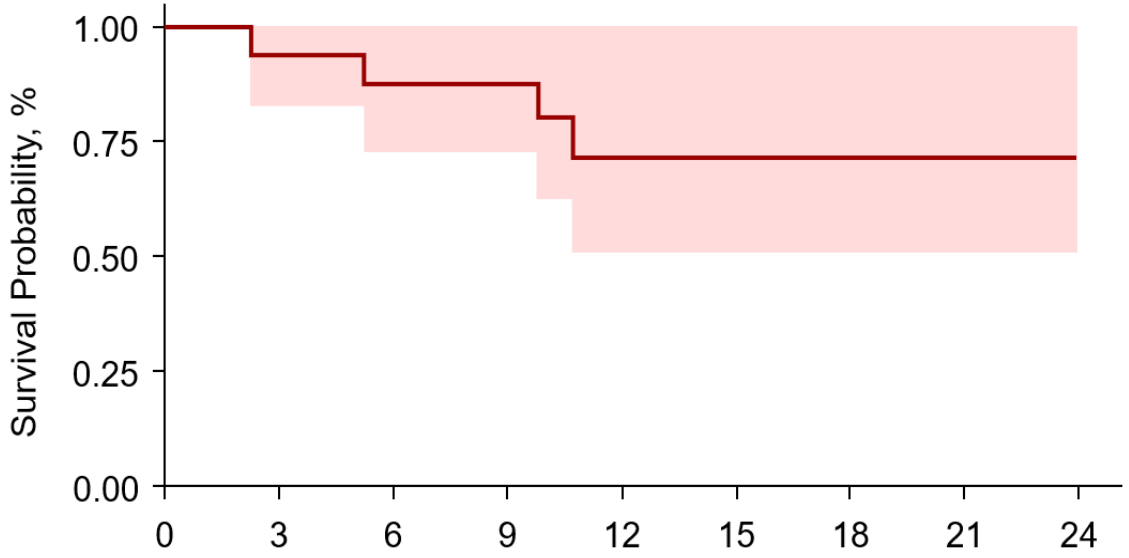

Courtesy of Bartosz Grzywacz M.D. Bachanova et al , Presented at Plenary Session 12 at the 3rd International Meeting Advances in Malignant Lymphoma Jun 2022

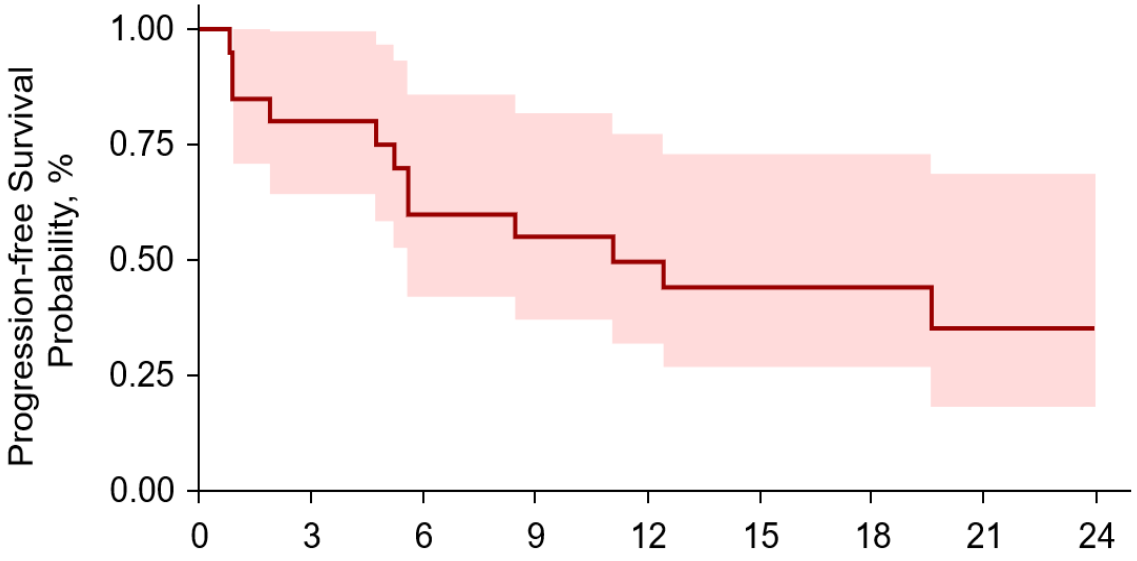
# GDA-201 demonstrated 2-year overall survival of 78%

## At a median follow-up of 11 months (range, 1–36)

**2-year OS: 78% (95% CI, 51%–91%)**

- **1-year PFS: 50% (95% CI, 27%–69%)**
- **2-year PFS: 35% (95% CI, 14%–58%)**






CI, confidence interval; OS, overall survival; PFS, progression-free survival

# We are leveraging our knowledge of cryopreservation to further advance our NK pipeline

## GDA-201 cryopreserved formulation maintains phenotype expression, cytotoxicity function, and enhanced potency

Peripheral bone marrow cells collected by apheresis*

**HEALTHY DONOR**

Seed CD3- cells

**DAY 0**

Proprietary co-culture with NAM +IL-15 + autologous irradiated CD3+ feeder cells

Highly functional NK cells: ~50-100 billion NK cells with purity >99%

**DAY 14**

Proprietary infusion ready **cryopreserved product;** exhibits high viability up to six months post-thaw

*One apheresis procedure can provide treatment for 5-10 patients



1. Horwitz et al. *Blood*. 2021;138:1429-1440. 2. Peled et al. *Exp Hematol.* 2012;40:342-55.e1.

# Encouraging clinical activity and safety profile supports continued development

## Key Accomplishments

- Preclinical proof of principle
- Clinical proof of concept
- Cryopreserved formulation

## Next Step

Phase 1/2 multi-center study in lymphoma for cryopreserved GDA-201

# A Phase I/II multicenter study evaluating the safety and efficacy of allogeneic GDA-201 NK cells in patients with r/r B Cell Non-Hodgkin Lymphoma

- **Opening study sites in May 2022**
- **Estimated primary completion date July 2024**
- **Estimated study completion date February 2025**

## Phase I Dose Escalation: 3x3 Design

**Dose Level 4**
**$2 \times 10^8$ cells/kg**

**Dose Level 3**
**$1 \times 10^8$ cells/kg**

**Dose Level 2**
**$5 \times 10^7$ cells/kg**

**Dose Level 1***
**$2.5 \times 10^7$ cells/kg**

*Recommended Phase 2 Dose*

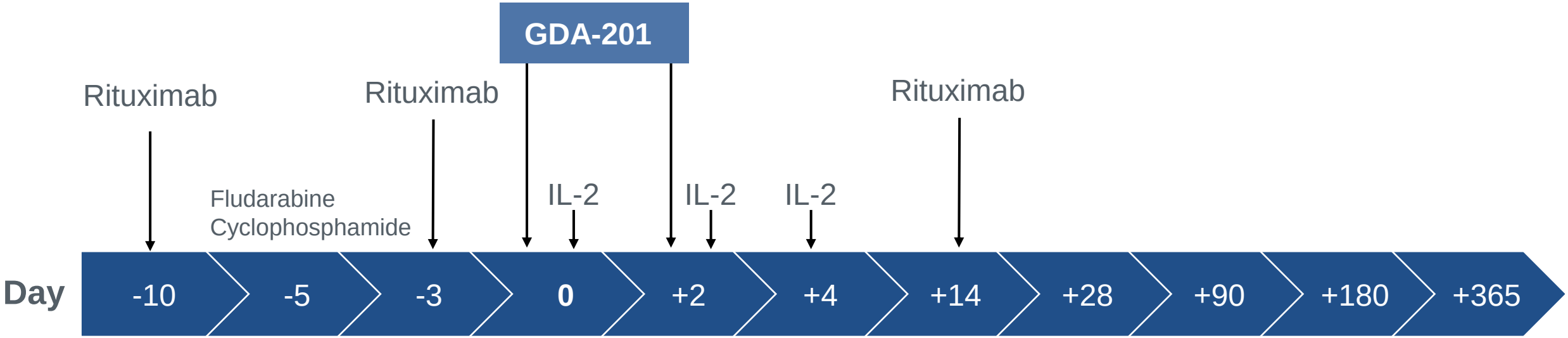
## Phase II Expansion: Simon 2-Stage Design

| | |
|---|---|
| **DLBCL / HGBCL**<br>Stage 1: N=14 | **DLBCL / HGBCL**<br>Total N=31 |
| **FL**<br>Stage 1: N=11 | **FL**<br>Total N=32 |



* First patient dosed with cryopreserved formulation August 2022

# Study Treatment Plan




## Doses

**Rituximab: 375 mg/m$^2$**
**Fludarabine: 30 mg/m2 IV x 3 days**
**Cyclophosphamide: 400 mg/m2 IV x 3 days**
**Interleukin-2 (IL-2): 6 million units SC**

## Enrollment Criteria

- **Age ≥ 18**
- **Relapsed/refractory B Cell FL or DLBCL**
  - **Received at least 2 prior lines of therapy (including anti-CD20 antibody)**
  - **Prior autologous or allogeneic hematopoietic stem cell transplant permitted**
  - **Prior chimeric antigen receptor modified T-cells (CAR-T) cell therapy permitted**
- **Measurable disease as defined by Lugano response criteria**
- **ECOG Performance Status of 0 or 1**
- **Adequate organ function, no active infection**

# Engineered NK Cell Programs

## Next-Generation of NAM-enabled NK Cell Therapy Candidates

gamida cell

GDA-201, GDA-301, GDA-401, GDA-501, GDA-601 are investigational and safety and efficacy have not been established by any agency.

# Led by GDA-201 clinical proof of concept, Gamida Cell continues to invest in advancing a diversified NAM-enabled NK cell pipeline

| PROGRAM | STRATEGY | GENETIC MODIFICATION | INDICATION(S) |
|---|---|---|---|
| GDA-301 | Increased potency and persistence | *CISH* KO + membIL-15 | Hematologic + solid tumors |
| GDA-401 | Undisclosed | | |
| GDA-501 | HER2 Targeting | HER2 CAR | HER2+ solid tumors |
| GDA-601 | CD38 Targeting | CD38 KO + CD38 CAR | Multiple myeloma |

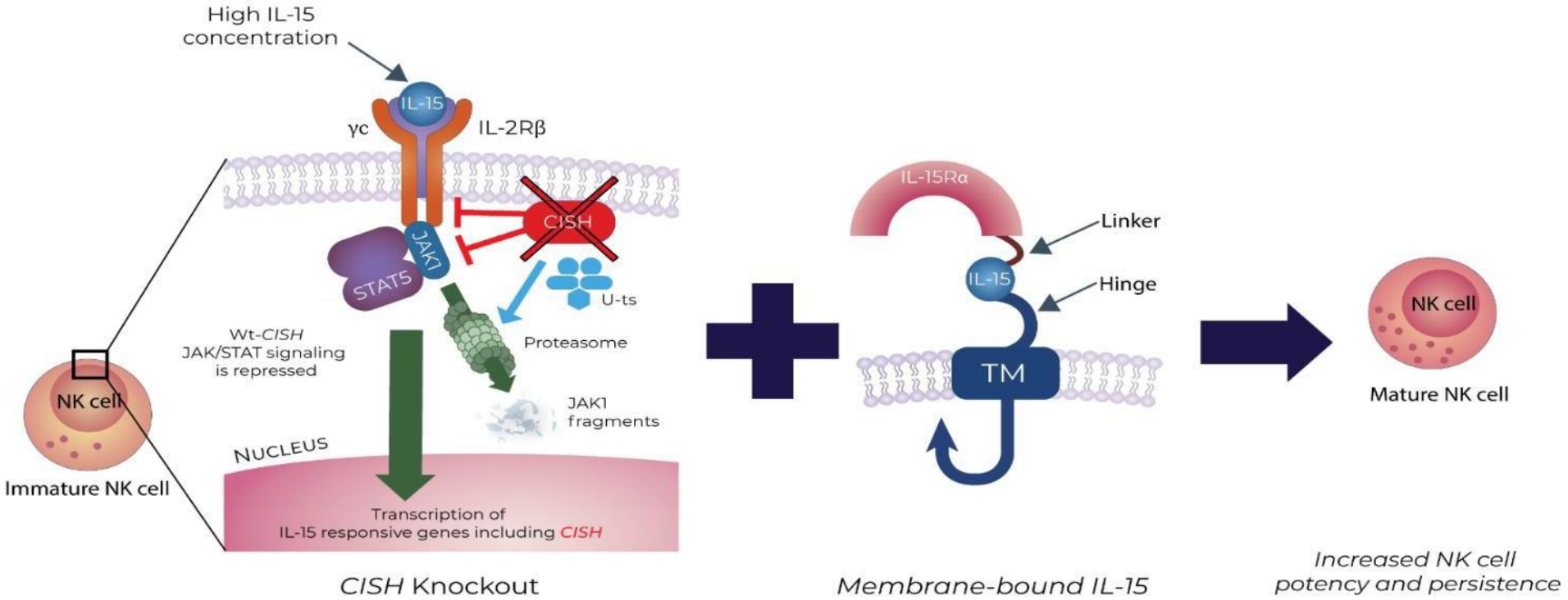
**We plan to select a genetically modified NK cell therapy candidate for IND enabling study by the end of 2022**

# GDA-301: Enhancing NK potency and persistence

**The lack of persistence of infused NK cells is a principal limitation of driving adaptive immunotherapy. Combining CISH KO with membrane-bound IL-15 will improve in vivo persistence and killing capacity, without concomitant IL-2 administration.**

*CISH* deletion increases sensitivity to IL-15 by lowering the NK activation threshold

NKs equipped with membIL-15 will remove the need for patient IL-2 administration regimen

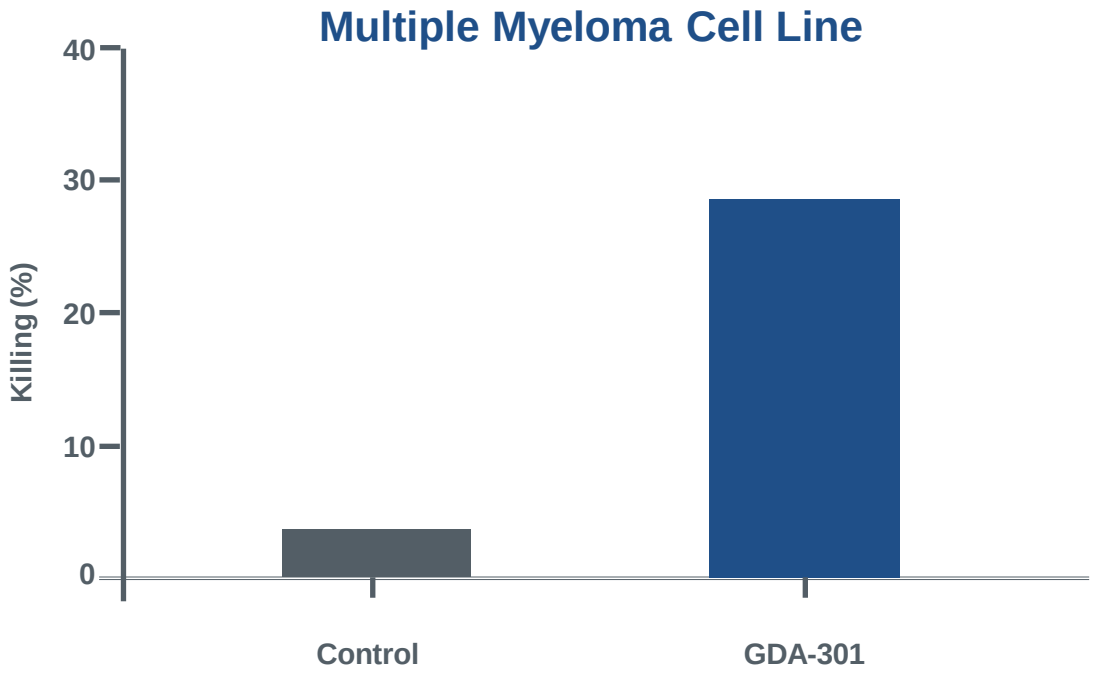





gamida cell

# GDA-301: Drives increased target cell killing in vitro

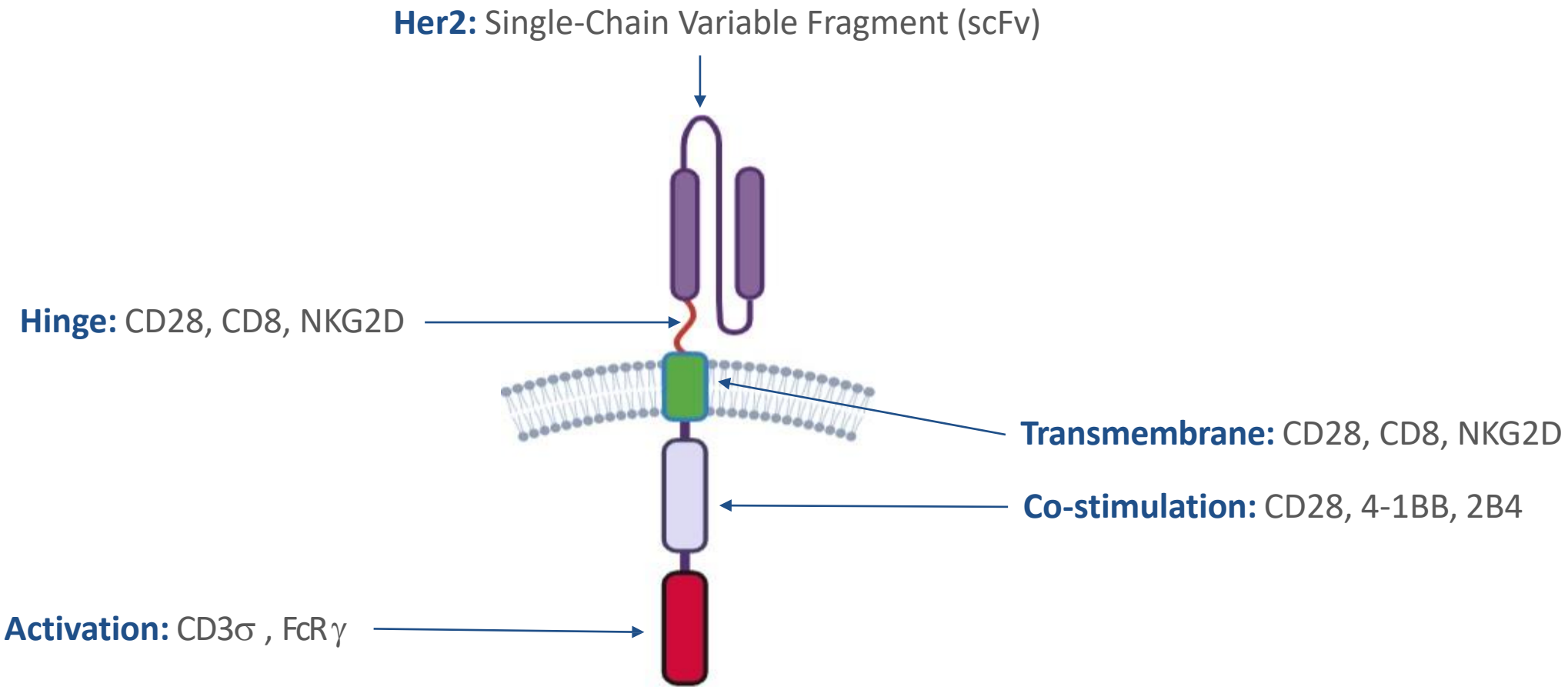
## Deletion of CISH and co-expression of mb-IL15 on NK cells enhances their cytotoxicity activity




**Killing assay was performed on CISH knockout cells, 24h after the electroporation of mRNA-mbIL-15 that followed a 6hr co-culture of NK cells with RPMI cell line, Ratio 5:1**

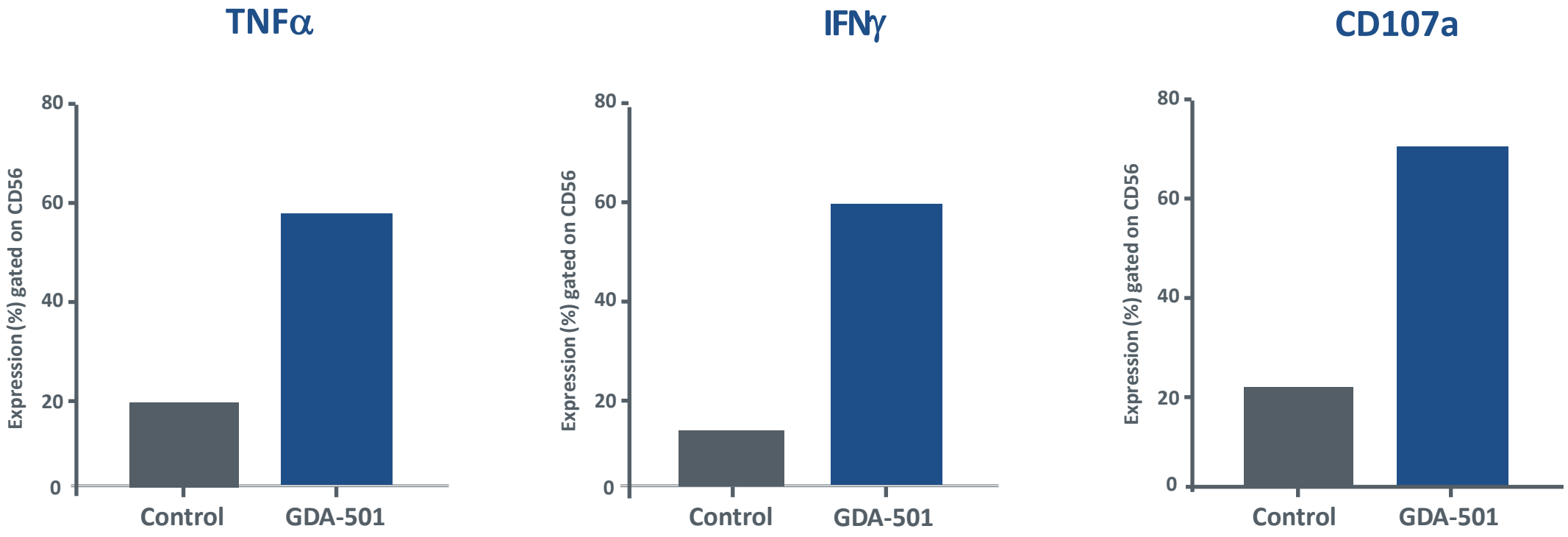
# GDA-501: Developed to optimize targeting and NK activation against HER2+ tumors

**Multiple tailor-made NK CARs were developed to target and activate NKs against HER2+ tumors**



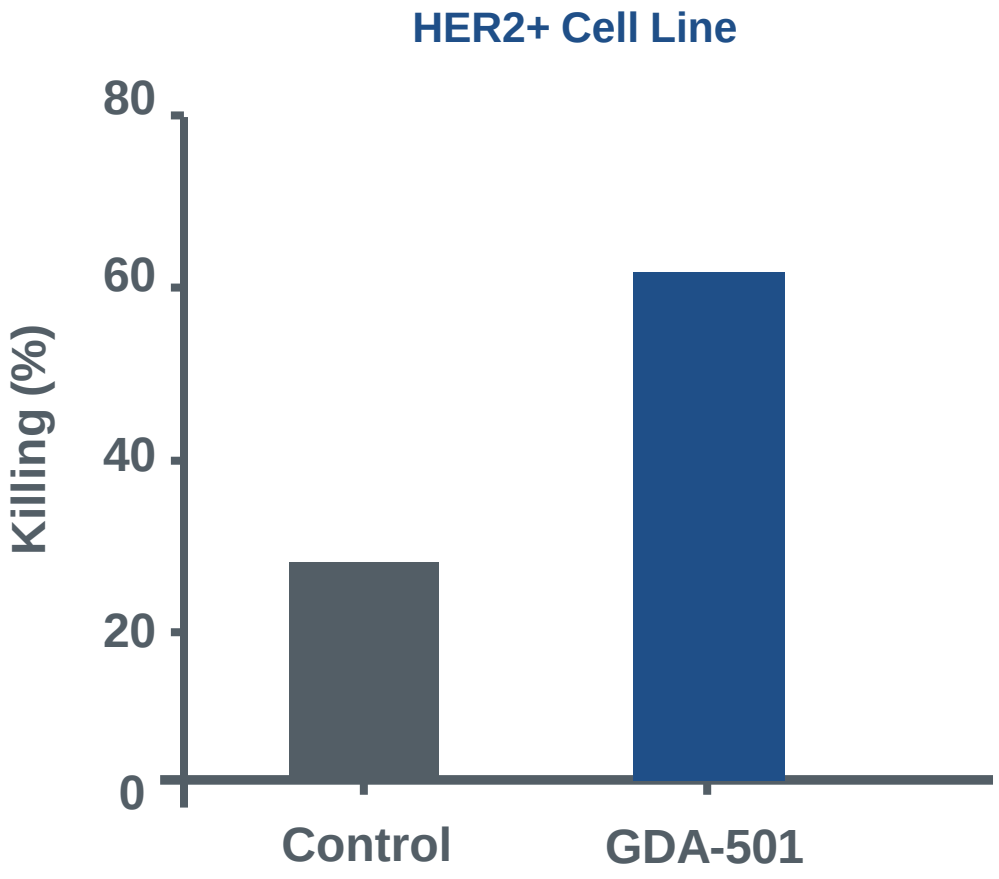
# GDA-501: HER2 CAR NK cells enhance activity against HER2+ cell lines

**When exposed to HER2+ cell lines, GDA-501 upregulates inflammatory cytokine production and degranulation marker (CD107a) associated with cytotoxicity**




Potency analyses assay of 6 h co-cultured Her2-CAR NKs with corresponding target cells: Flow cytometric analysis of CD107a expression, intracellular TNFα and IFN-γ production in control NK cells, or electroporated NK cells with mRNA expressing HER2 CAR constructs.

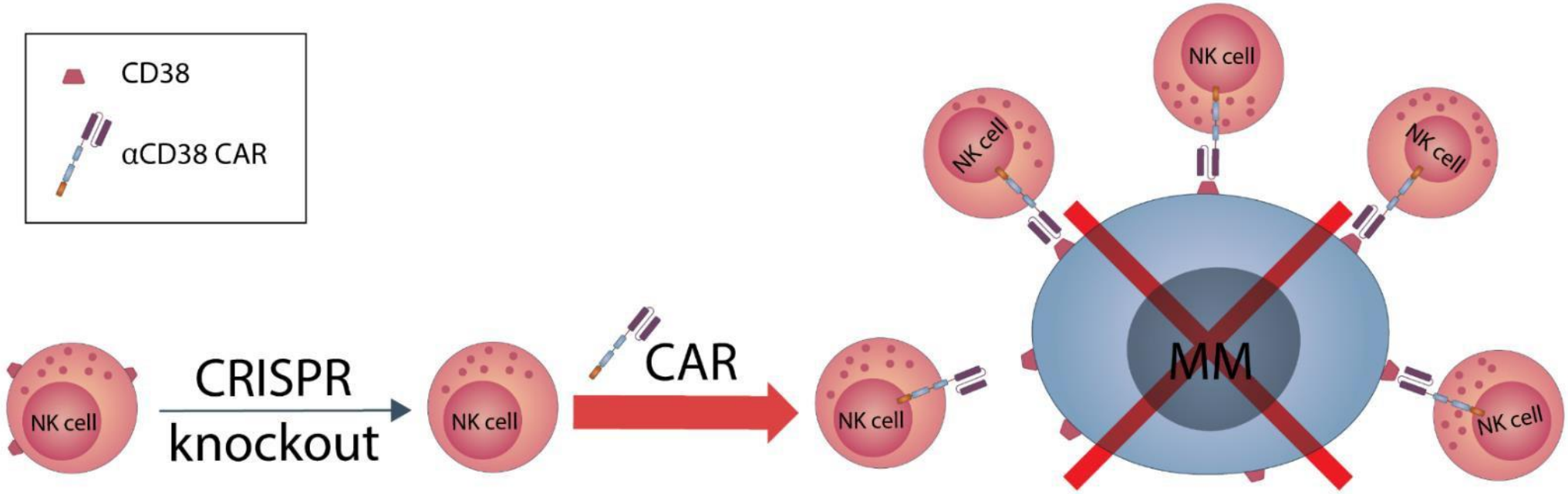
# GDA-501: Shows effective in vitro cytotoxicity against HER2+ cell line




Killing activity of electroporated NK cells against target cells: Killing assay performed by flow cytometry analyses demonstrating calculated specific-lysis percentages following a co-culturing (in 5:1 ratio) for 6h with SKOV3 cell line 24h after electroporation

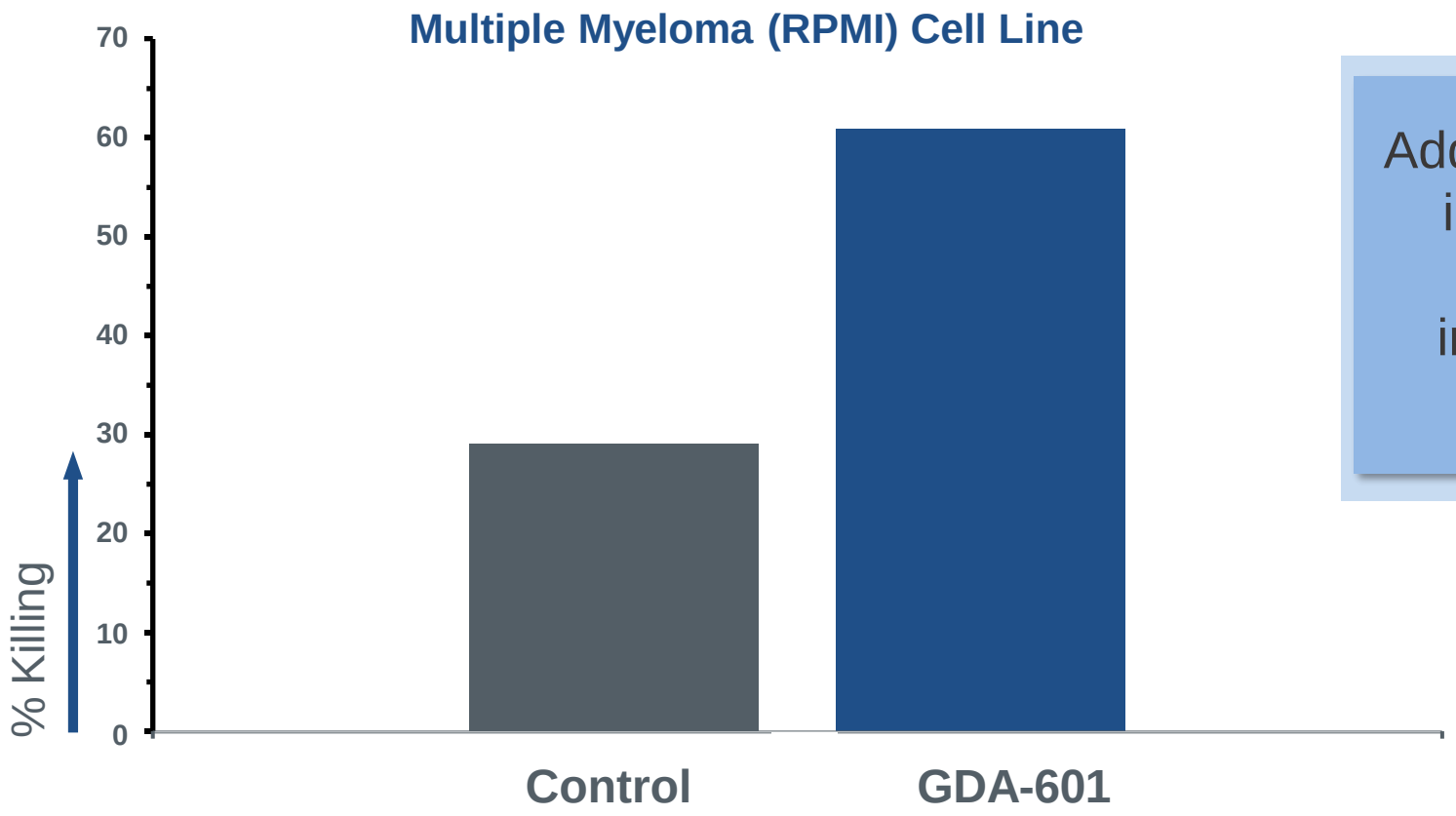
# GDA-601: Leverages CRISPR/Cas9 technology to enhance cytotoxic effect against multiple myeloma cells

**CD38 in NK cells was knocked out using CRISPR-Cas9 technology, and an enhanced chimeric antigen receptor (CAR) targeting CD38 was introduced using mRNA electroporation. This combined genetic approach allows improved cytotoxic activity directed against CD38-expressing MM cells without self-inflicted lysis by NK cells (fratricide).**




Killing activity of electroporated NK cells against target cells: Killing assay performed by flow cytometry analyses demonstrating calculated specific-lysis percentages following a co-culturing (in 5:1 ratio) for 6h with SKOV3 cell line 24h after electroporation

# GDA-601: Increased cytotoxicity against multiple myeloma in vitro




Additional **research is ongoing** in collaboration with **Dana-Farber Cancer Institute,** investigating GDA-601 with **fresh patient samples**

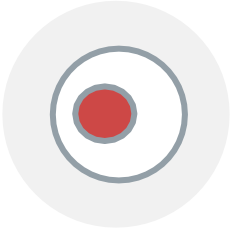
Killing assay was performed following a 6 hour co-culture of GDA-601 with RPMI cell line at an Effector to Target ratio of 5:1

# The pipeline of NAM-enabled cell therapy candidates position Gamida Cell for near and long-term success

## Omidubicel

### Nearing Potential Commercialization

- Potential to be first FDA-approved cell therapy for allogeneic hematopoietic stem cell transplant (allo-HSCT)
- Breakthrough Therapy and Orphan Drug status
- BLA accepted for Priority Review
- PDUFA date January 30, 2023



## GDA-201

### Leading NK cell innovation in lymphoma

- NK cell therapy candidate with positive Phase 1 data using fresh product; 78% ORR and 64% CR
- Received FDA clearance for an IND for a Phase 1/2 trial in NHL with an allogeneic readily available cryopreserved formulation
- Open for enrollment, announced June 2022
- First patient dosed with cryopreserved formulation August 2022

## GDA-301/401/501/601

### Opening frontiers in cancer immunotherapy

- Proof-of-concept for genetic engineering modifications, including CAR, membrane bound IL15, and knockouts using multiple approaches including CRISPR
- Evidence of increased cytotoxicity in preclinical studies
- Potential in hematology and solid tumors
- Plan to select one candidate for IND enabling study by the end of 2022



GDA-201, GDA-301, GDA-401, GDA-501, GDA-601 are investigational and safety and efficacy have not been established by any agency.

# Committed to Cures

Learn more at
gamida-cell.com

gamida cell