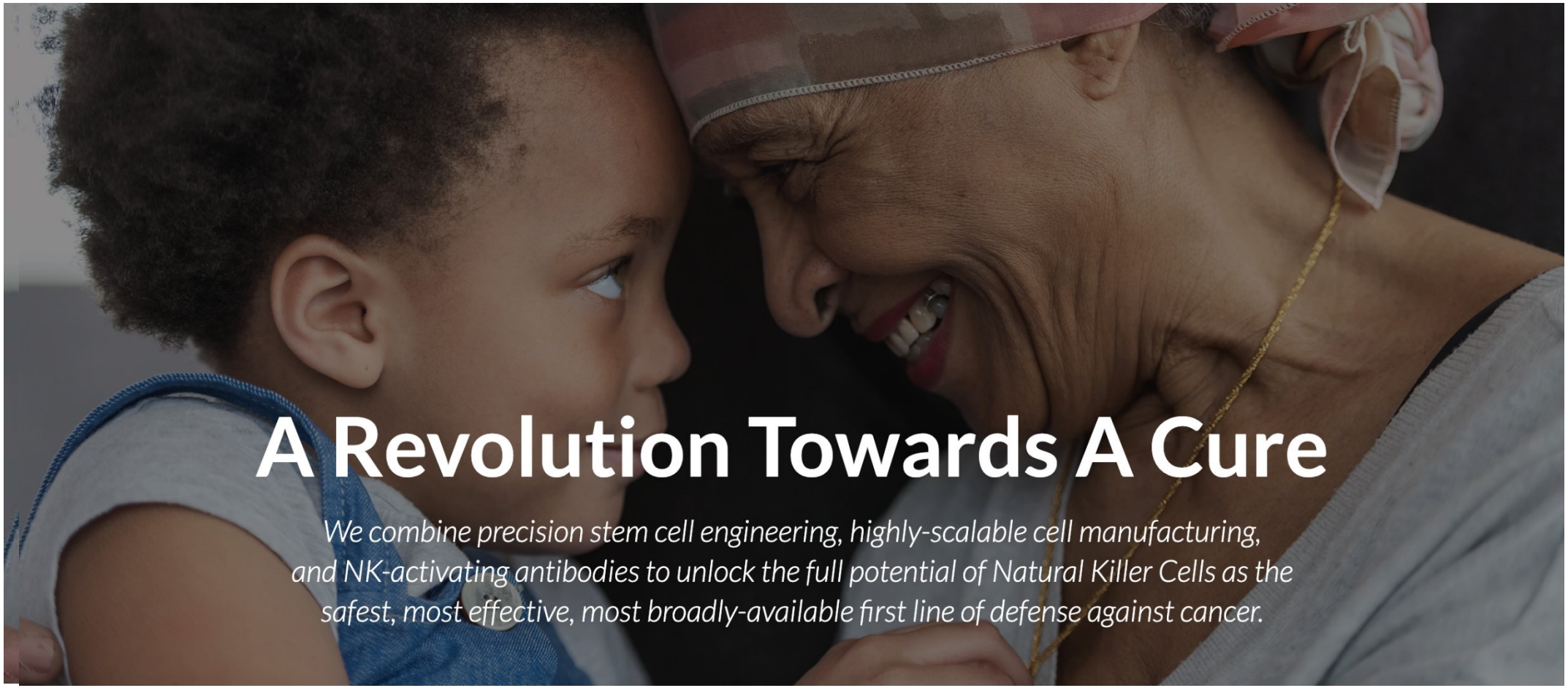
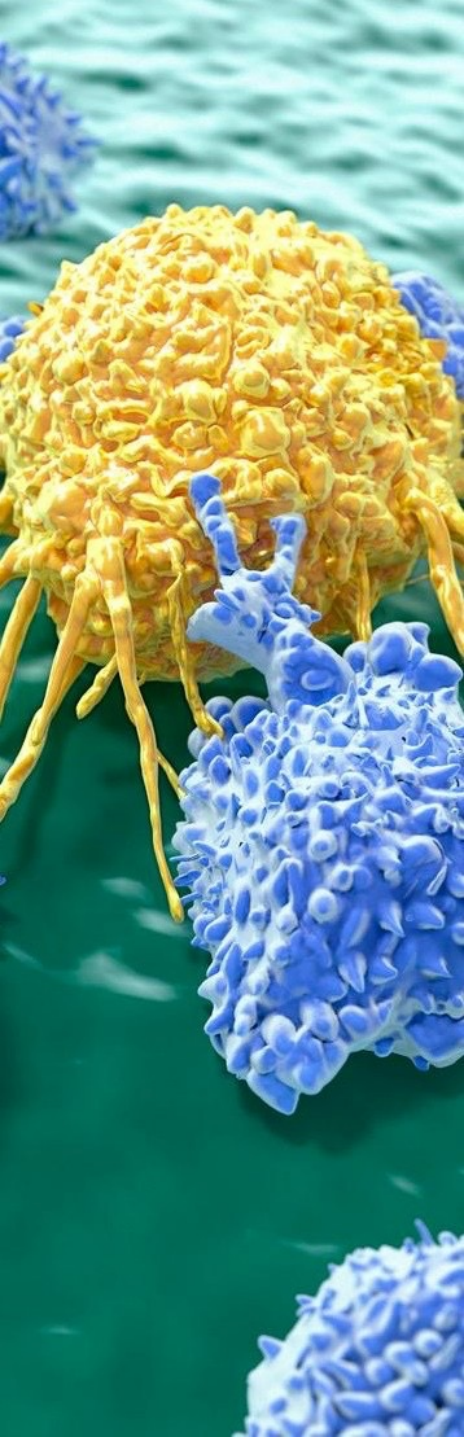
Cytovia Therapeutics



Corporate Presentation July 2021



A Leader in NK Cancer Therapeutics

- **First NK company developing synergistic and proprietary NK therapeutic platforms**
  - Bispecific NKp46 engager antibodies (Flex-NKp46)
  - iPSC derived Universal NK cells (iNK)
  - Optimized gene edited iNK cells including CAR iNK cells
  - Unique ability to combine Flex-NKp46 and iNK cells

- **First-in-class therapeutic candidates with $1bn sales potential and multiple INDs in 2022**
- **Differentiated pipeline in solid tumors with:**
  - GPC3 Solid Tumor Pipeline: GPC3 Flex-NKp46 engager +/- Universal iNK cells; GPC3 CAR iNK
- **Validated target in liquid tumors;**
  - CD38 Hematologic Malignancies: CD38 Flex-NKp46 Engager +/- Universal iNK cells and CD38 CAR iNK

- **Internal R&D and GMP manufacturing cell & gene infrastructure established with a highly experienced team**
- **CytoLynx JV to accelerate China market access & global development**

Experienced Management Team

Daniel Teper, PharmD, MBA
Co-Founder / Chair & CEO

BIONEST PARTNERS · IMMUNE Pharmaceuticals · gsk · NOVARTIS · SANOFI

Stanley Frankel, MD
Chief Medical Officer

AMGEN · Bristol Myers Squibb · Celgene · PRECISION BIOSCIENCES

Wei Li, PhD
Chief Scientific Officer

ArQule · BOSTON BIOMEDICAL

Olivier Gouédard, PharmD, MBA
COO

AMGEN · Bristol Myers Squibb · Celgene

Bill Sullivan, MBA
Chief Financial Officer

merrimack · agtc

Pipeline Development Milestones 2022/2023

Program	Product	Target	Indication	H2 2021	H1 2022	H2 2022	H1 2023
GPC3	CYT-303	GPC3-Flex-NKp46	HCC, Solid Tumors	Pre-Clinical	IND Application		
	CYT-503	GPC3 CAR iNK	HCC, Solid Tumors	Pre-Clinical		IND Application	
CD38	CYT-338	CD38-Flex-NKp46	Multiple Myeloma	Pre-Clinical	IND Application		
	CYT-538	CD38 CAR iNK	Multiple Myeloma	Pre-Clinical			IND Application
iPSC NK Cells	CYT-100	Universal iNK	Solid Tumors + NK Engagers	Pre-Clinical	IND Application		
	CYT-150	Edited iNK	Solid Tumors + NK Engagers	Pre-Clinical		IND Application	
EGFR	CYT-501	EGFR vIII+wt CAR iNK	GBM, Solid Tumors	Pre-Clinical			IND Application

Cytovia Therapeutics

3 Differentiated First-in-Class CAR iNKs in Heme and Solid Tumors

Cytovia Positioned as a Leader Starting in 2022 with Clinical Stage Gene Edited CAR iNKs

Anticipated INDs for CAR-NK companies

	Blood Cancers			Solid Tumors		
	CD19	BCMA	CD38	GPC3	EGFR	Others
Cytovia Therapeutics			2023	2022	2023	
Century Tx	2021	2022				
Fate Tx	2020	2021				2022
Artiva Bio	2022					
MDA / Takeda	2019					
Nkarta	2021					
Immunity Bio	2020				2022	2022

iPSC-NK Platform | Cord Blood Platform | Donor Derived NK Platform | NK92 Cell Line Platform

Cytovia Therapeutics

R&D and GMP Manufacturing Cell & Gene Infrastructure

Cytovia Owned & Staffed with a Highly Experienced Team

R&D Center Natick / Cambridge, MA

Cytovia Biologics GMP Manufacturing Puerto Rico

Academic & Biotech Experience

The University of Texas MD Anderson Cancer Center

Dana-Farber Cancer Institute

Harvard Medical School

University of Minnesota
Driven to Discover℠

Lonza
Pharma & Biotech

editas Medicine

MustangBio

Bellicum Pharmaceuticals

Precision BioSciences

PTC Therapeutics

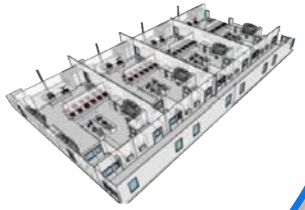
Alexion

Cytovia Has an Integrated Ecosystem of World-Class Partnerships

Cytovia Therapeutics

R&D

Manufacturing



TALEN® Gene Editing

Precision Gene Editing & CAR Optimization

iPSC / CAR-NK Process Development

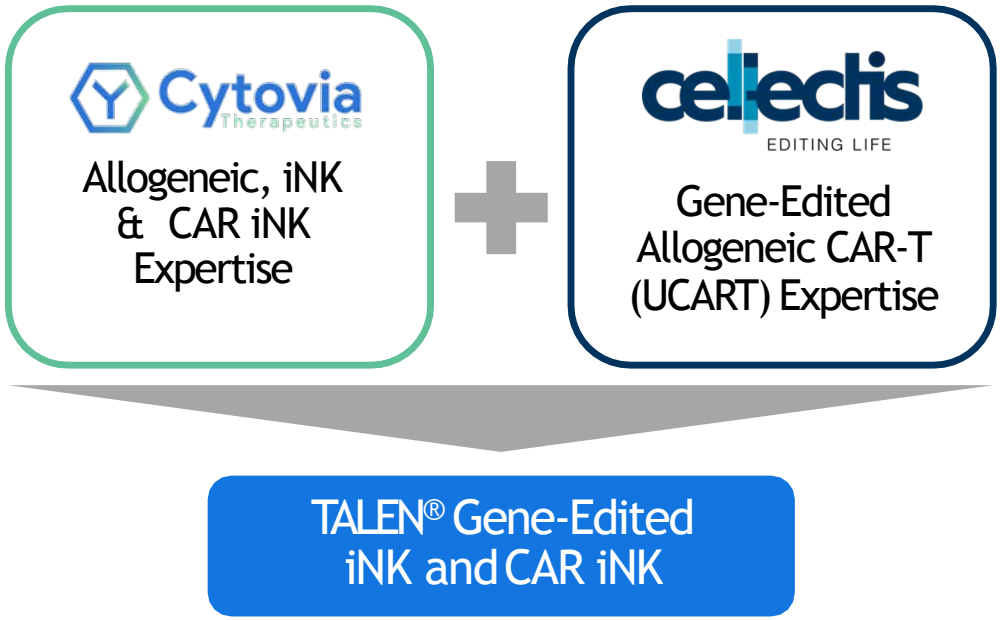
NK Engager Pharmacology

GPC3 Pharmacology

CD38 Pharmacology

EGFR Pharmacology

R&D Collaboration with Cellectis to Develop TALEN® Gene-Edited iNK cells



Deal Scope

- Cellectis is granting Cytovia a worldwide license to its TALEN® gene-editing technology
- TALEN® will yield NK and CAR iNK treatments with improved potency, persistence, and safety
- Cellectis to develop custom TALEN® for editing iPSCs
- Cytovia to oversee differentiation and expansion of the gene-edited iPSC master cell bank into iNK cells
  - Cytovia will further conduct pre-clinical evaluation, clinical development, and commercialization of mutually-agreed-upon selected therapeutic candidates

Deal Terms

- Partnership to include up to $760mm in milestones for the first 5 TALEN® gene-edited products
- Cellectis will receive a $15mm equity stake and single-digit royalties on all partnered products

"We are thrilled to partner with Cytovia, a pioneer in the development of NK cells derived from iPSCs. We are looking forward to this collaboration and the opportunity to further expand the potency of our proprietary TALEN® gene-editing technology to iPSCs and CAR iNKs."

-Dr. André Choulika, CEO of Cellectis

CytoLynx Therapeutics:
Access China Market Potential and Accelerate Global Development

Financial Benefits

- CytoLynx JV established with a leading Chinese institutional investor syndicate & launched in July 2021
  - First Equity investment of $5M in Cytovia US completed
  - Additional investment of $40M in CytoLynx/Cytovia
- Three products initially licensed to the JV
  - GPC3 Flex-NKp46, GPC3-CAR iNK, Universal iNK
- Cytovia US to receive milestones and royalties

Operational Benefits

- Access to China R&D Hub and GMP Manufacturing
- CytoLynx JV to contribute to the global development of Cytovia US following FDA standards
- CytoLynx JV to potentially develop its own pipeline for global development leveraging Cytovia US technology platforms

Cytovia Therapeutics

Cytovia's Comprehensive NK Technologies:

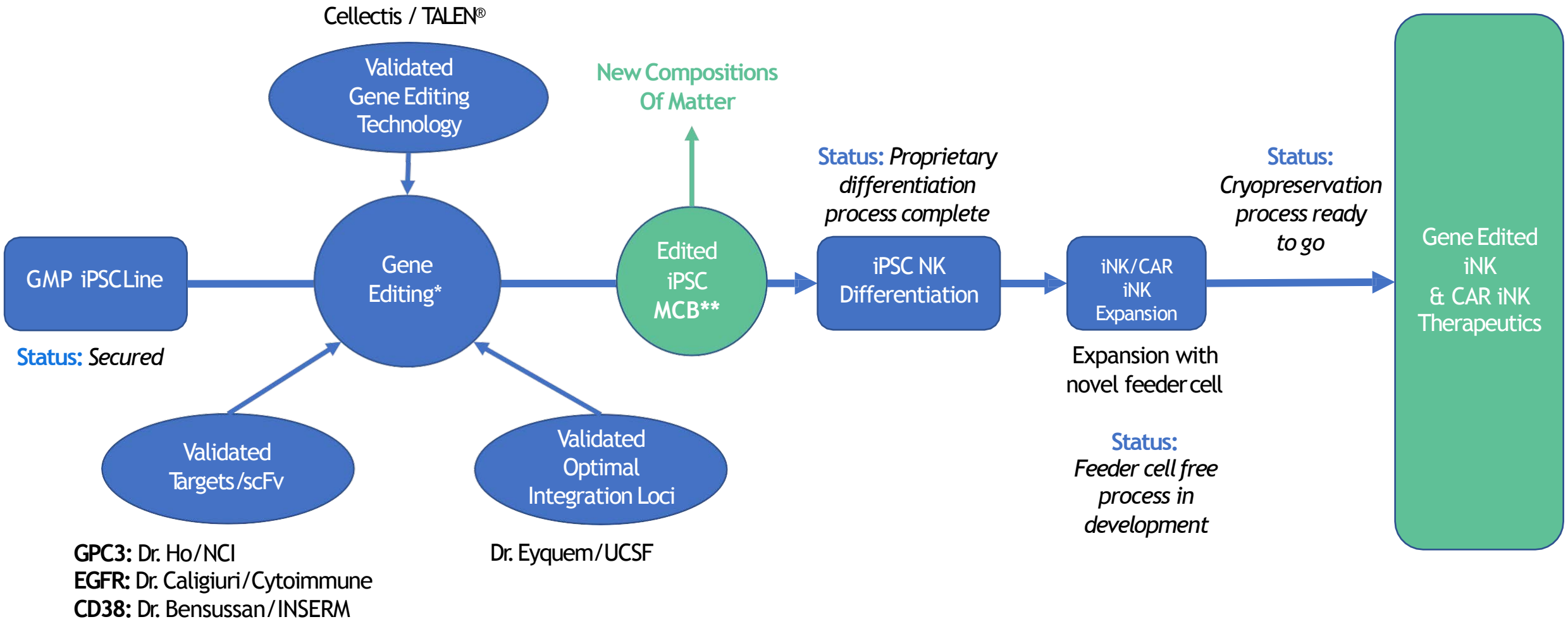
Gene Edited iNK & CAR iNK Cell Therapy

Cytovia iPSC Technology Facilitates Gene Editing and Highly Scalable Production of Precision iNK Cells From Monoclonal Master Cell banks

	Autologous CAR T	Allogeneic CAR T	Donor Derived CAR iNK(1)	iPSC Derived CAR iNK	Cytovia Therapeutics
SAFETY					
Graft Versus Host Disease Risk (GvHD)	Low	TBD	Low	Low	**Low**
Cytokine Release Syndrome (CRS) or Neurotoxicity Risk	High	High	Low	Low	**Low**
MANUFACTURING					
Off-the-shelf Product	-	+	+	++	**++**
Cost of Manufacturing	+++++	++	++	+	**+**
Ease of Gene Editing	++	+	++	+++++	**+++++**
Master Cell Bank	-	+	+	+++	**+++**
Homogeneous Product	+	+	+	+++	**+++**
Batch to Batch Variation	Yes	Yes	Yes	No	**No**
Multiple Dosing	No	TBD	Yes	Yes	**Yes**
EFFICACY					
Persistence	+++++	++	+	++	**+++**
CAR-Independent Tumor Cytotoxicity	-	-	+	+	**+**
Improved Activity Against Solid Tumor	-	-	-	-	**+**

(1) Includes peripheral blood-derived and cord blood-derived CAR iNK cells.

Cytovia CAR iNK Plug-and-Play Process Leverages Best-in-Class Technologies



*One-time event for each program; ** MCB = Master Cell Bank

Clinical & Commercial Manufacturing Capabilities

Up to 3,000 Patient Doses per Batch

Clinical Batch Capabilities

1 Trillion cells / 1,000 patient doses / 22 days

Scaling-out up to 16 GRex

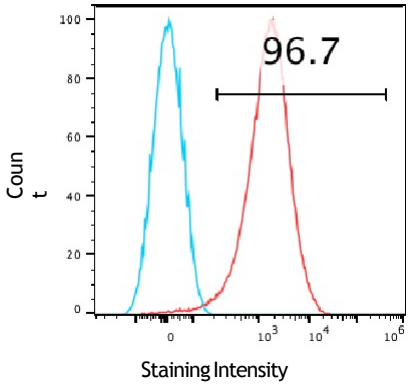
Commercial Batch Capabilities

3 Trillion cells / 3,000 patient doses / 22 days

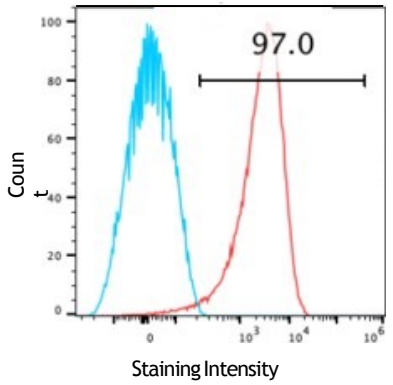
Scaling-up with Cytiva 50 L Bioreactor

Cytovia's iPSC-Derived NK Cells Express High Levels of NK Activating Receptors

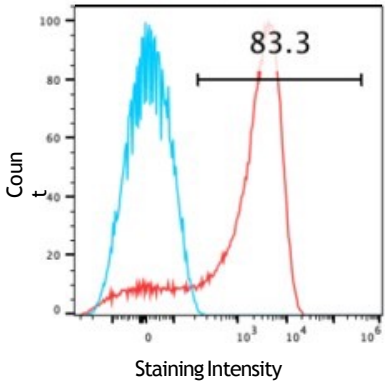
NKp46



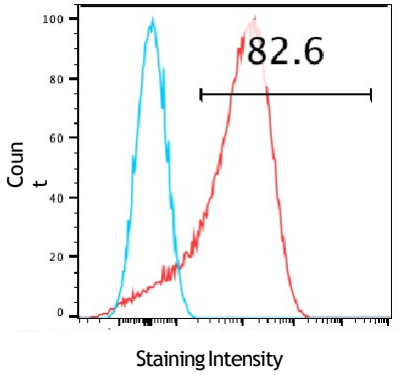
NKp30



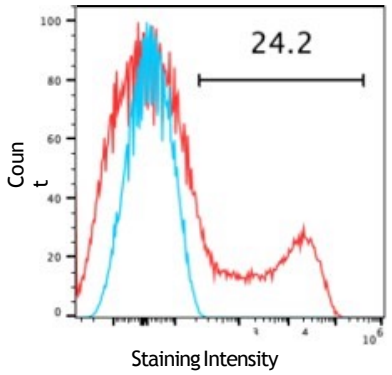
NKp44



NKG2D

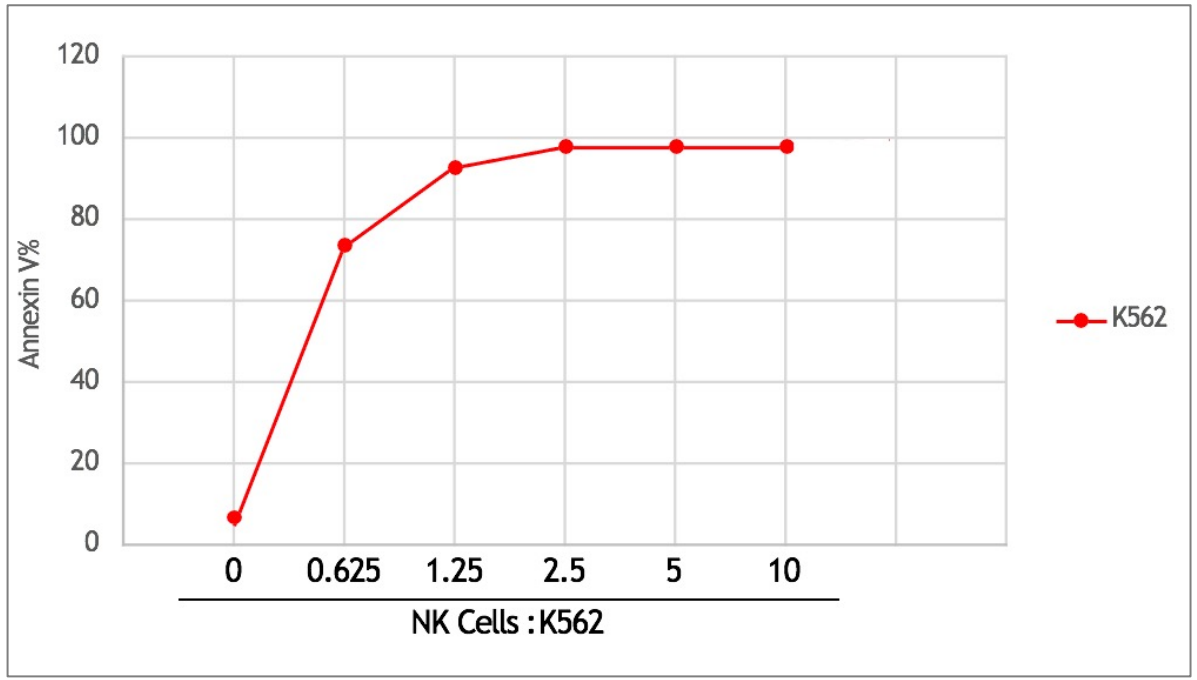


CD16

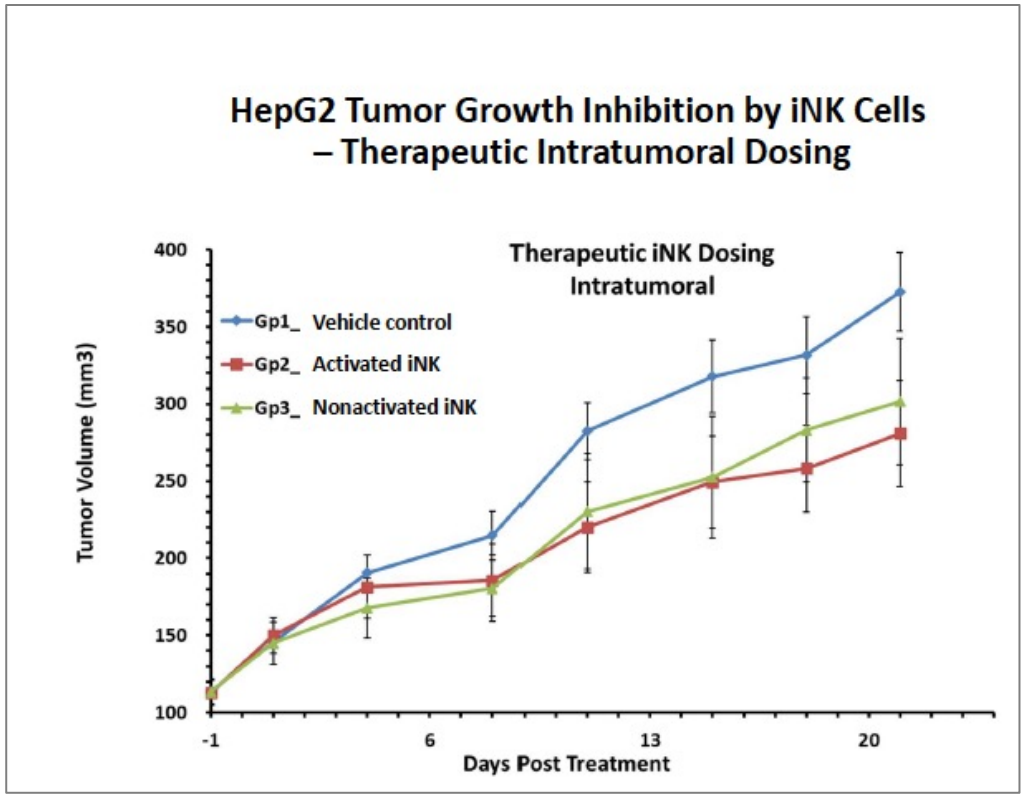


Source: data on file

Cytovia iNK Cells Demonstrate in Vitro & in Vivo Cytotoxicity



iNK potently kill K562 tumor targets



Mouse model with HCC cell line

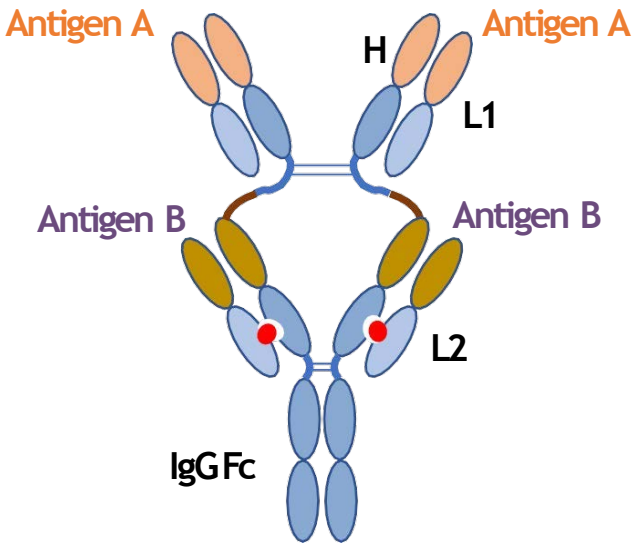
Source: data on file

Cytovia's Comprehensive NK Technologies:

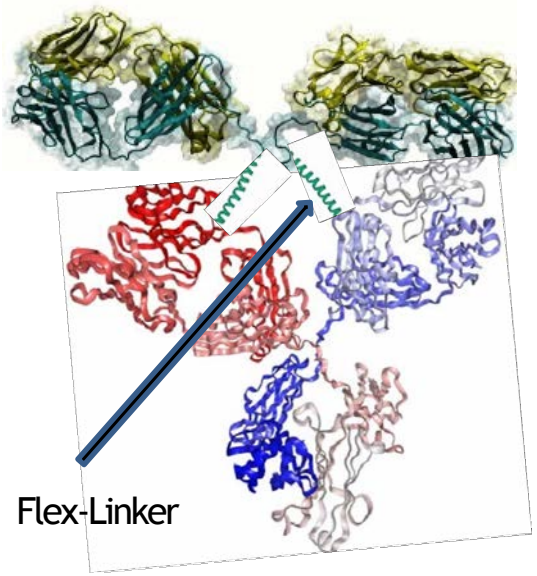
Flex-NK & Flex-NKp46

NK Engager Multi-Functional Antibodies

Proprietary BsAb Technology Leading to Novel Tri-functional FLEX NK Format



- Tetravalent: higher avidity for target, improved affinity and specificity
- Structure and novel Flex-linker allow for plug & play design
- Low immunogenicity
- Excellent stability
- Flex-NKp46 construct enhances NK Cell function against target cells
- IP secured from scientific co-founder
- Manufacturability established



Flex-linker facilitates binding to Antigen A&B

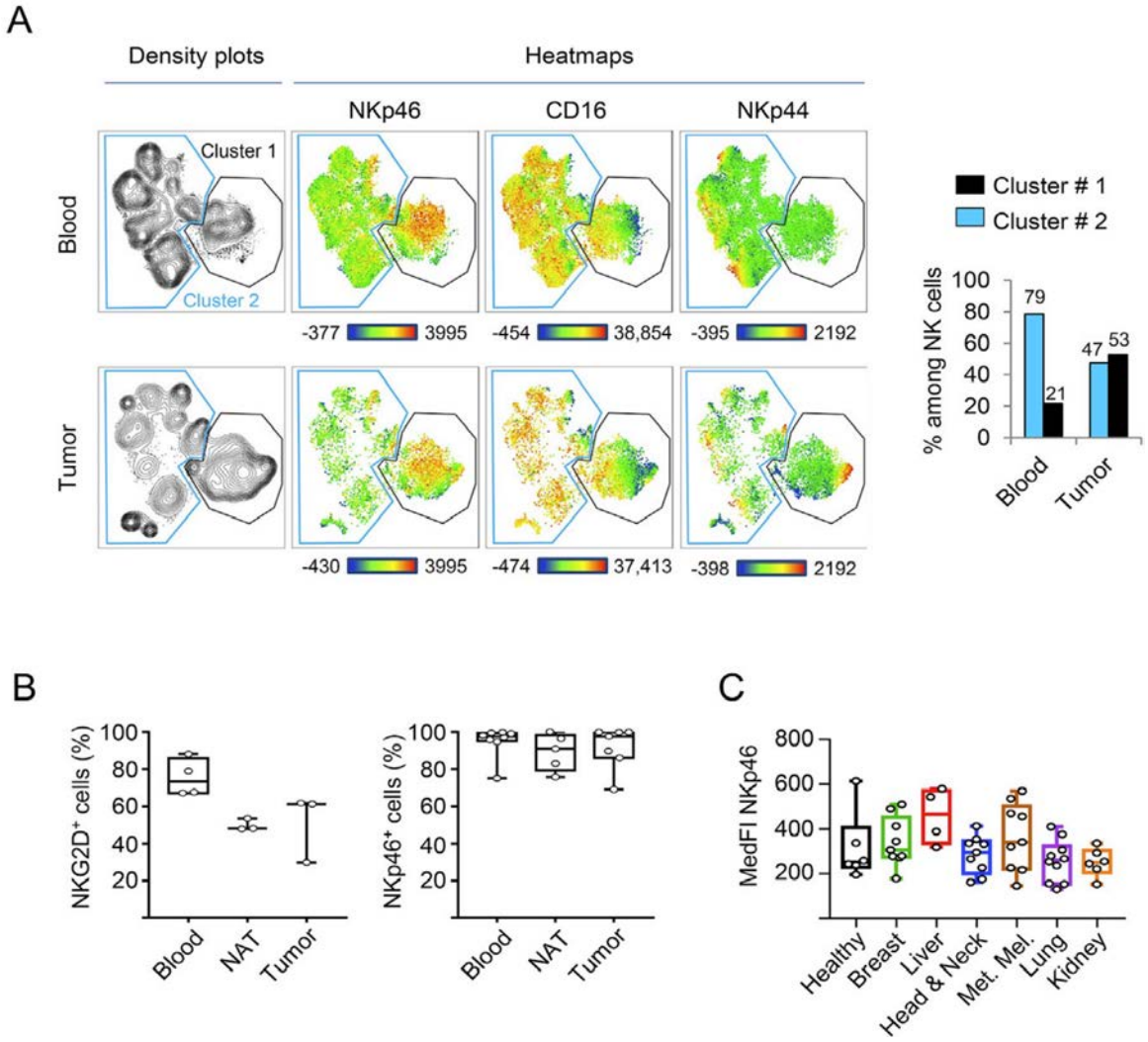
Golay et al. J. Immunol 2016

Engaging NKp46 to Induce NK-Cell-Mediated Anti-Tumor Immunity

- NKp46 (CD335) is Natural cytotoxicity triggering receptor 1 - a non-HLA class I-specific activating receptor responsible for the so-called "natural cytotoxicity" of NK cells
- This 46-kDa glycoprotein in humans is encoded by the NCR1 gene on chromosome 19
- NKp46 is expressed by all $CD56^{dim}CD16^{+}$ and $CD56^{bright}CD16^{-}$ human NK cells irrespective of their activation status
- NKp46 triggering mediates signaling via its association with the immunoreceptor tyrosine-based activation motif (ITAM)-bearing molecules CD3ζ and FcRγ that, upon receptor-engagement, become tyrosine phosphorylated. NKp46 mAb-mediated cross-linking triggers not only NK-cell cytotoxic activity but also cytokine release
- NK cell signaling through NKp46 activation triggers IFN-γ and TNF-α secretion by NK cells
- NKp46 plays a role in the NK-cell lysis of autologous, allogeneic, or xenogeneic cells

Gauthier et al., 2019, Cell 177, 1701–1713
https://doi.org/10.1016/j.cell.2019.04.041

NKp46 Expressed in Tumor Infiltrating NK Cells

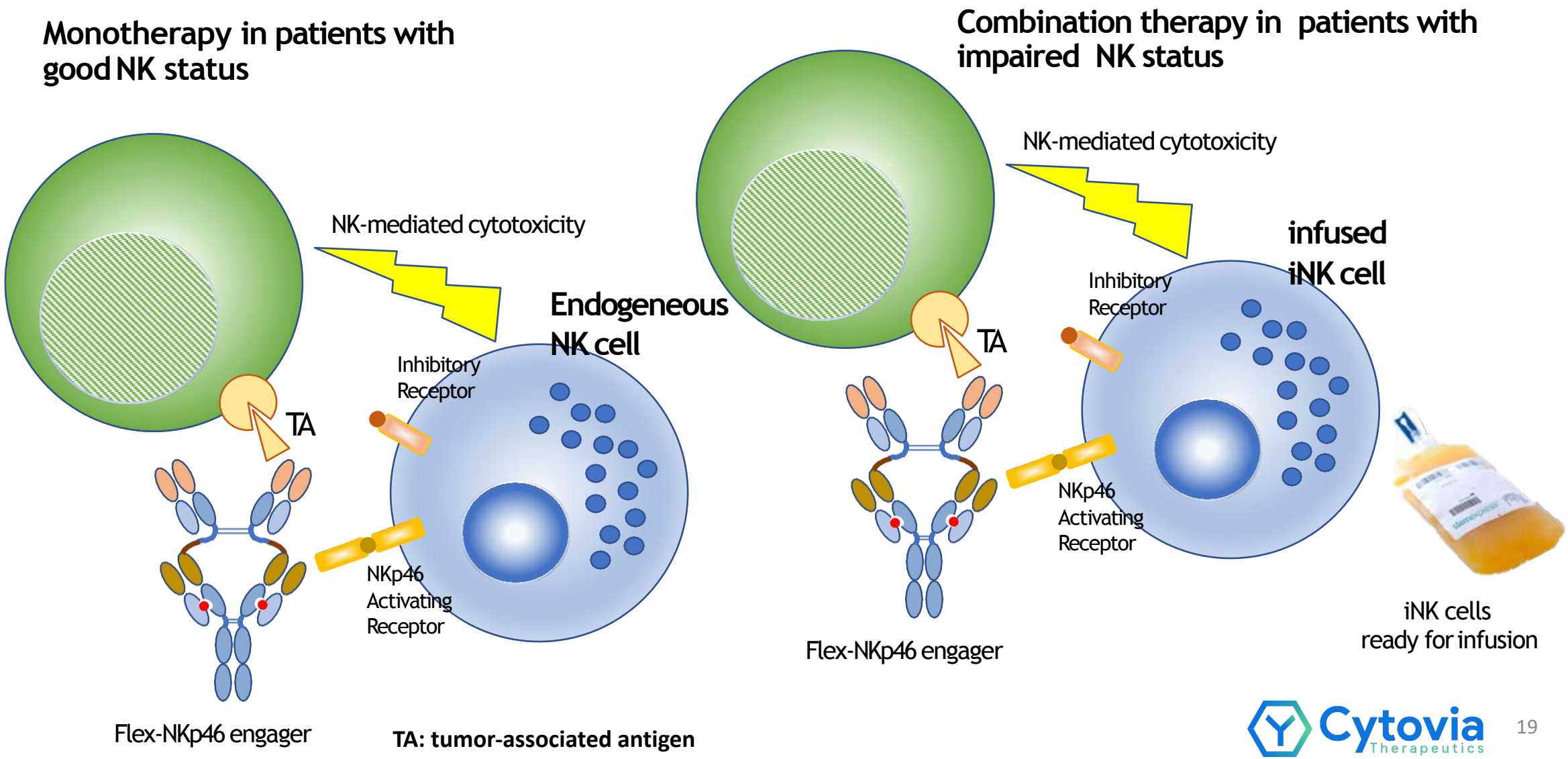


- Sustained NKp46 expression, associated with the downregulation of other activating receptors, such as NKG2D, NKp30, CD16, and NKp44, has been reported for many cancers, such as AML, breast cancer, and lung cancer
- Downregulation of NKG2D on NK cells has been observed in many cancers, including lung cancer, while no significant downregulation of NKp46 was observed in the periphery in SCCHN, breast, liver, lung, kidney, and metastatic melanoma cancer patients

SCCHN: squamous cell carcinoma of the head and neck

Gauthier et al, Cell 2019, 177, 1701-1713

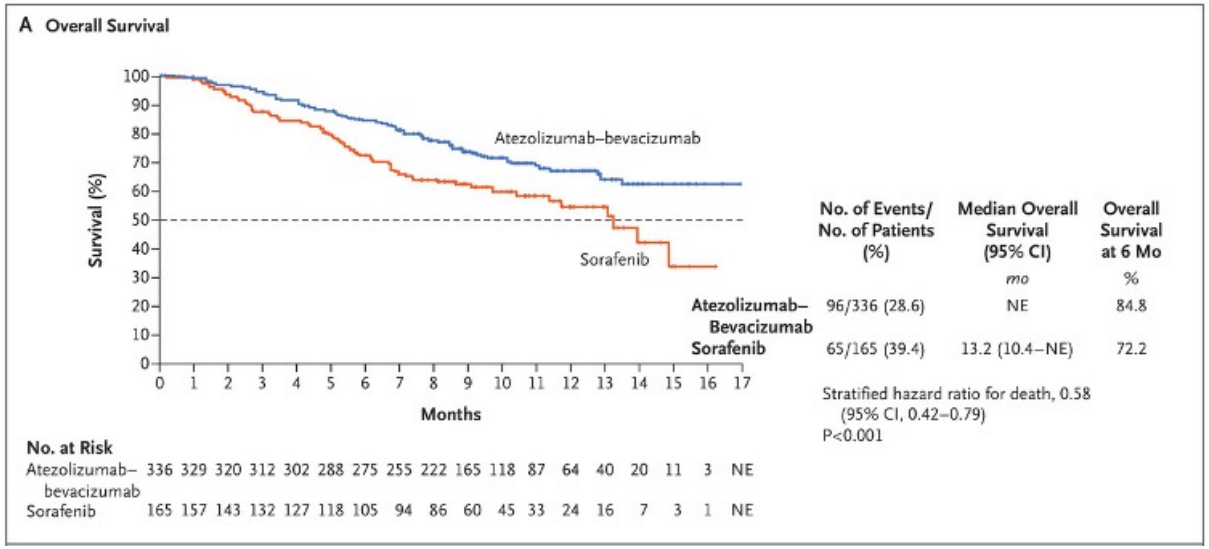
FLEX-NKp46 Has Potential as a Monotherapy or in Combination With Universal iNK Cells

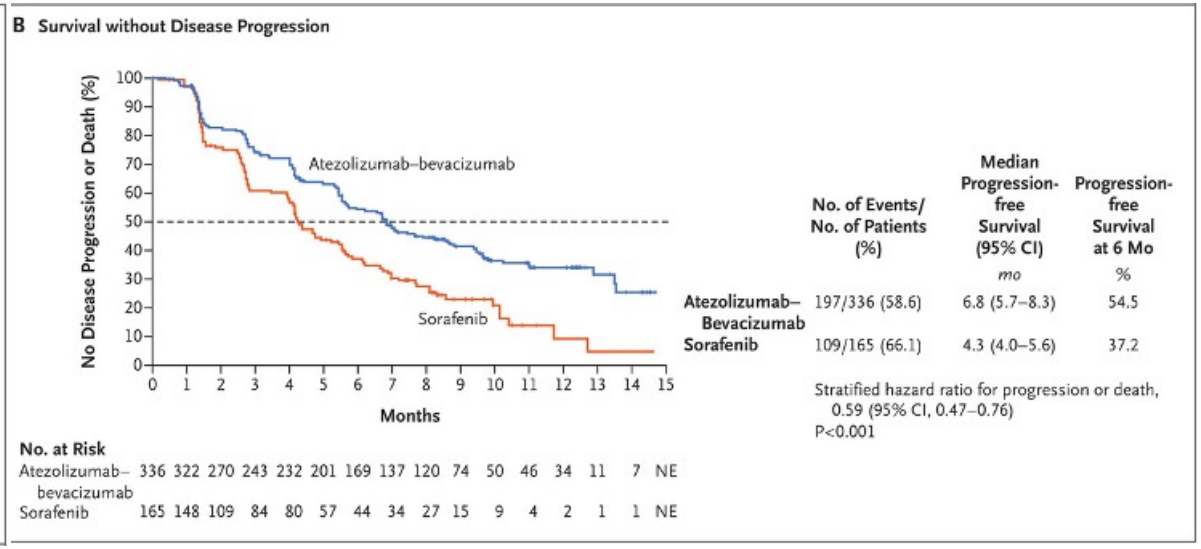


Glypican 3 (GPC3)
Hepatocellular Carcinoma (HCC) Program

Unresectable, Non-Transplantable Hepatocellular Carcinoma

Unmet Medical Need and Limited Therapeutic Options





RS Finn et al. N Engl J Med 2020;382:1894-1905

GPC3 is an Excellent Therapeutic Target for HCC and Other Cancers

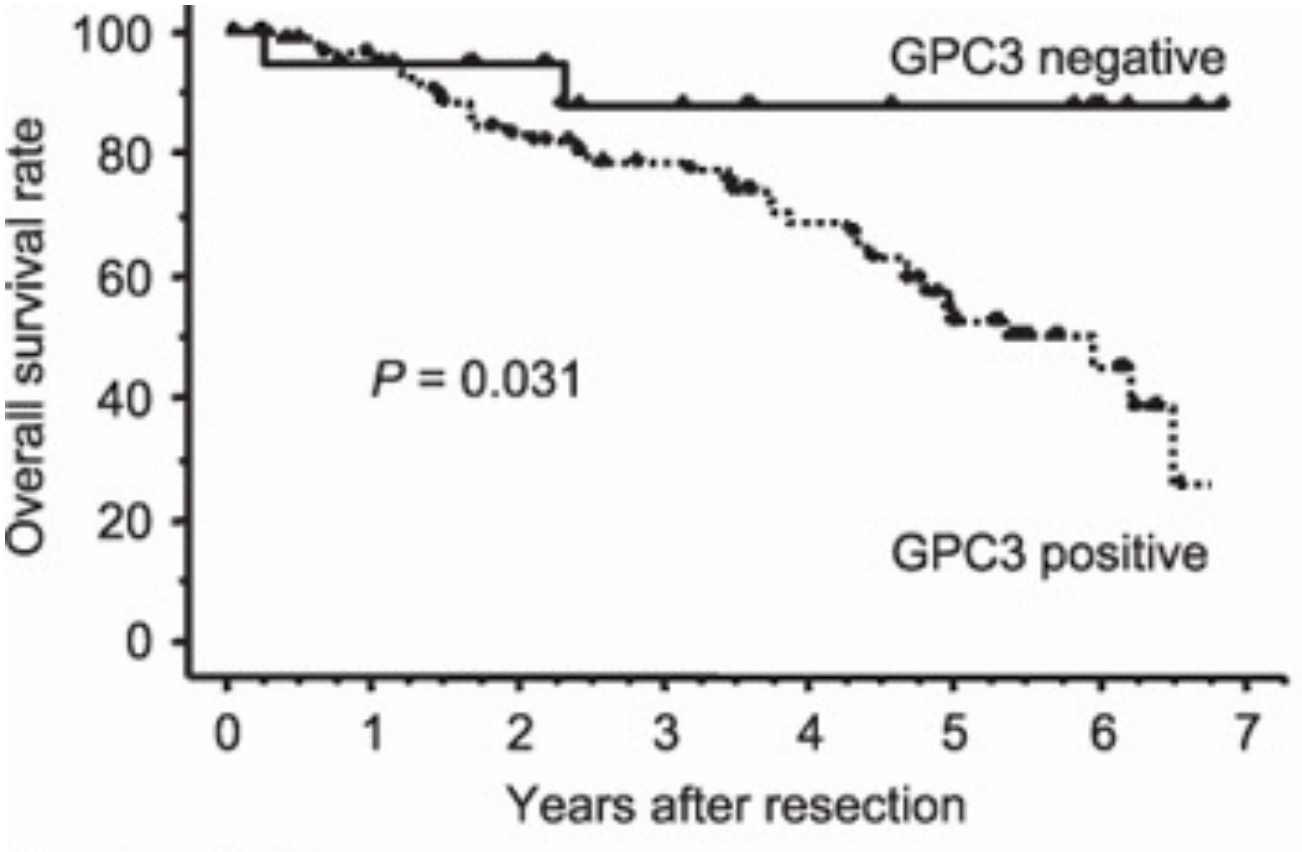
- GPC3, a 70 kDa protein, is encoded by the gene GPC3 located on Xq26.2
- GPC3 can be cleaved from the cell surface into the blood
- GPC3 present at mRNA level in 74.8% of HCC
- GPC3 mRNA either low or not detected in normal livers, focal nodular hyperplasia (FNH), and cirrhotic livers.
- GPC3 protein was highly expressed in 72% of HCCs, whereas it was undetectable in hepatocytes isolated from either healthy livers or livers with benign diseases

Shih, T-C (2020) Liver Research 4(4):168 https://doi.org/10.1016/j.livres.2020.11.003

Tumor Type	% GPC positive
HCC	66
Lung cancer-squamous	54
Liposarcoma	52
Non-seminoma testicular germ cell	52

Baumhoer D (2008) Am J Clin Path 129(6):899

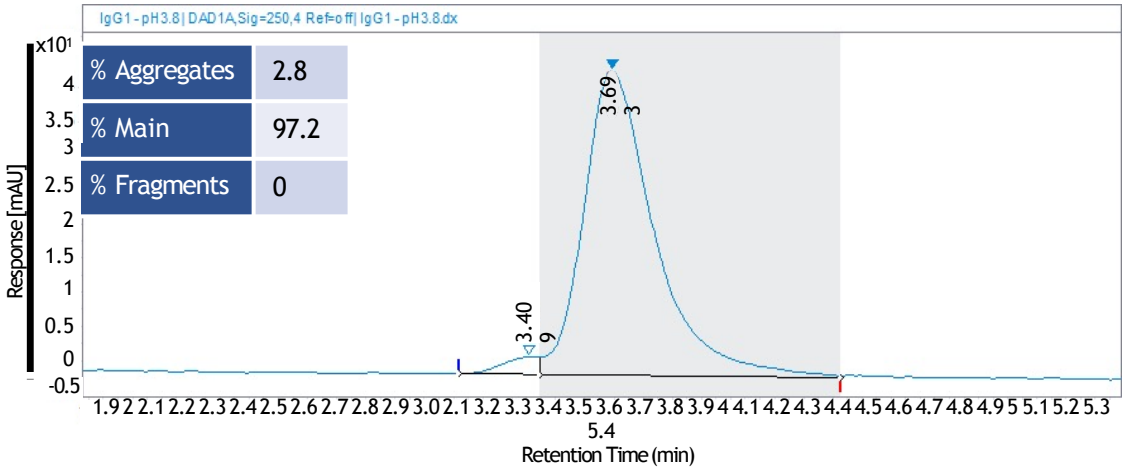
GPC3 Expression is Correlated With Poor Prognosis in HCC



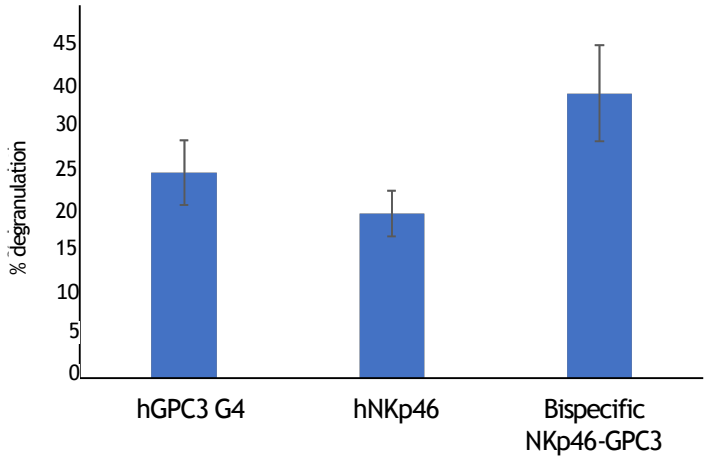
Shirakawa H et al, (2009) Cancer Science, Volume: 100, Issue: 8,
Pages: DOI: (10.1111/j.1349-7006.2009.01206.x)

Initial POC for the GPC3 FLEX-NKp46 Bi-Specific NK Engager

Simple 1-step purification of NKp46-GPC3 bi-specifics



NK activity is enhanced with bi-specific antibody

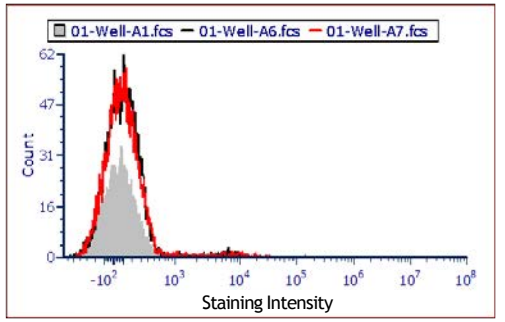


- 50,000 Hep3B cells were incubated with 1 µg antibody for one hour on ice
- Then, 50,000 NK cells pre-incubated with αCD56 and αCD107 antibodies were added for 2 hours at 37°C

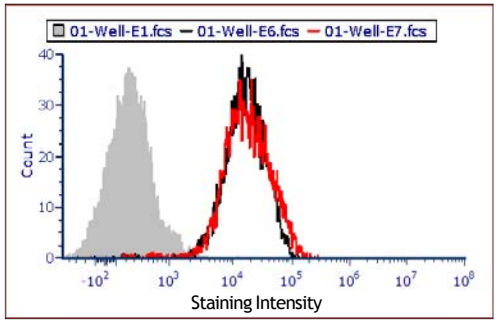
Bi-specific binds to both NKp46 and GPC3 cells

No antibody — αGPC3 antibody — αGPC3- αNKp46 antibody

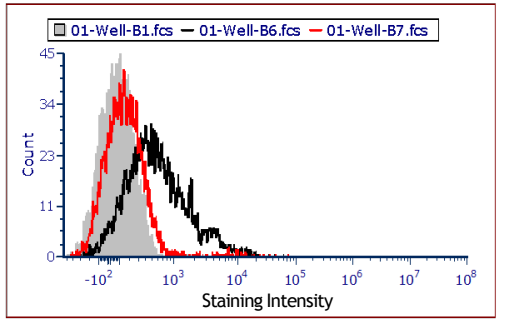
B cells not expressing NKp46



HCC cells expressing GPC3

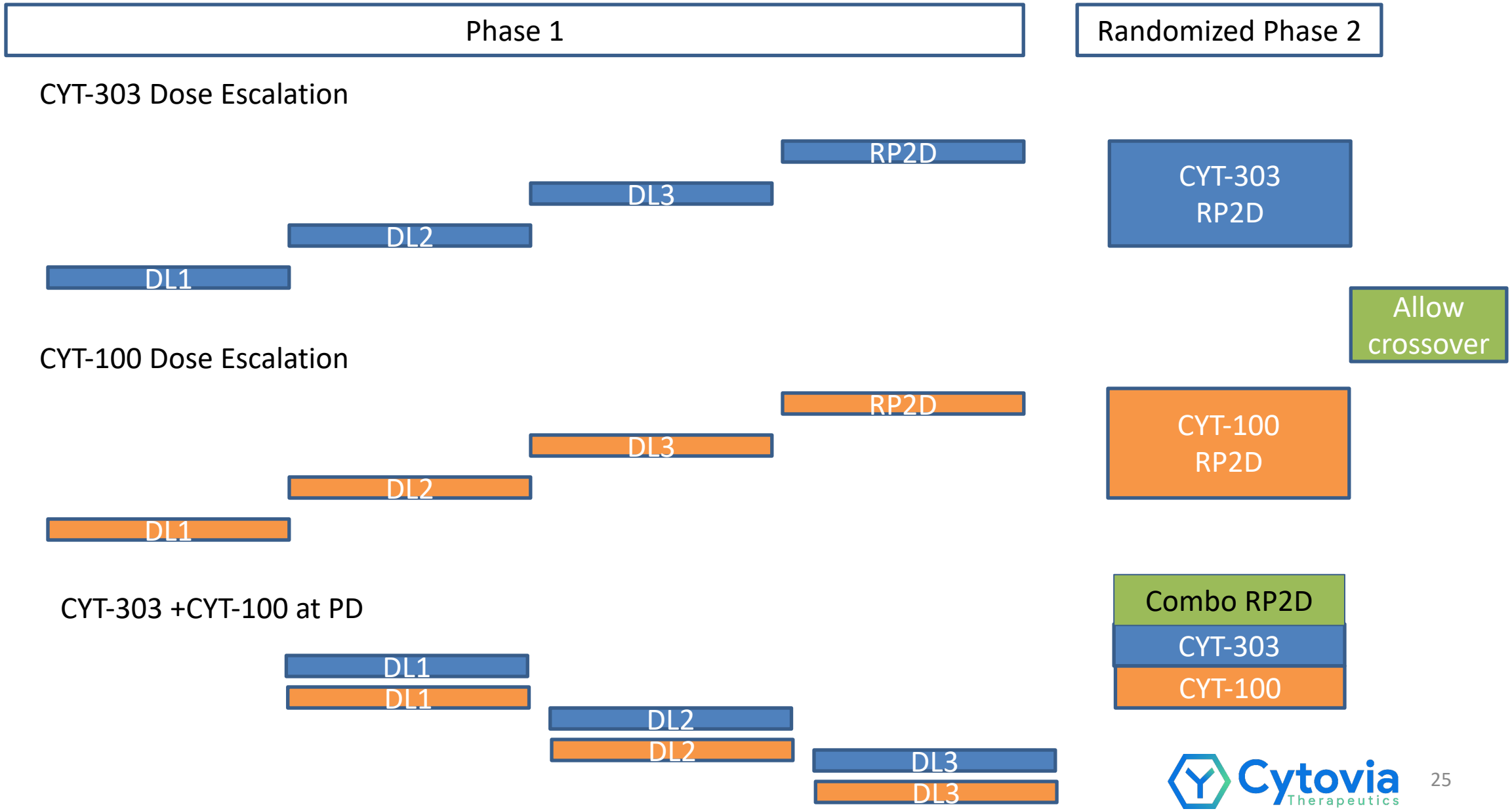


Engineered B cells expressing NKp46

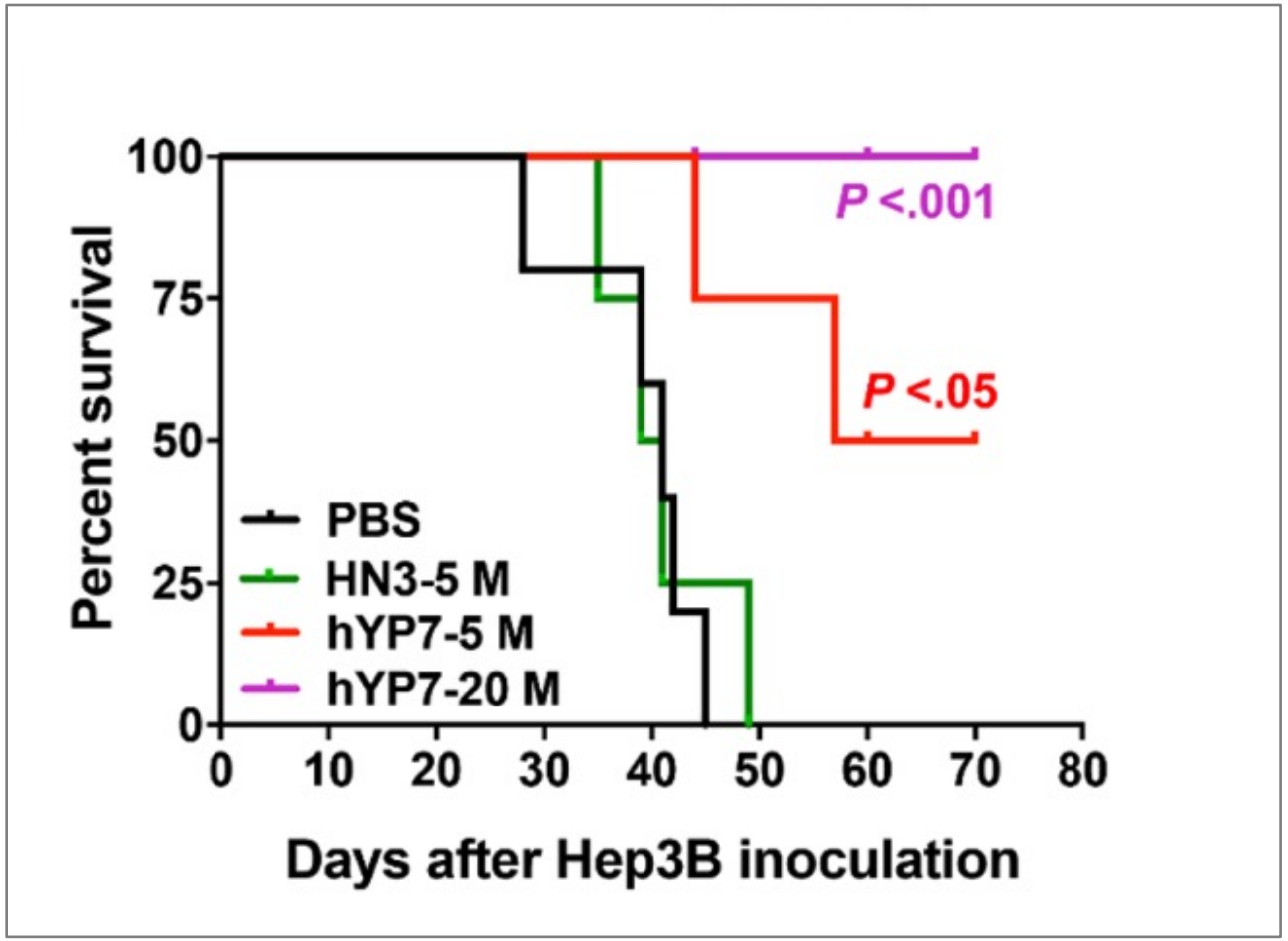


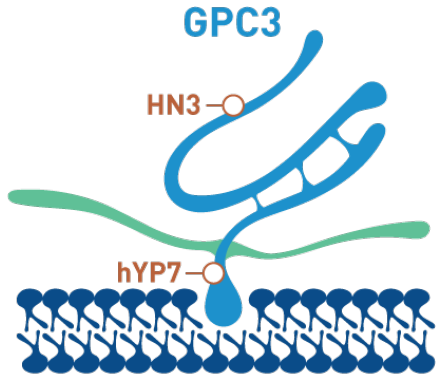
- 50,000 cells were incubated with 0.5 µg of αGPC3-αNKp46 antibody (black) or αGPC3 antibody (red) or no antibody (grey background) for 1 hour on ice
- The, AF-647 conjugated anti human antibody was added for another 30 minutes

NK GPC3 HCC Multi-Arm Phase 1/2 Study



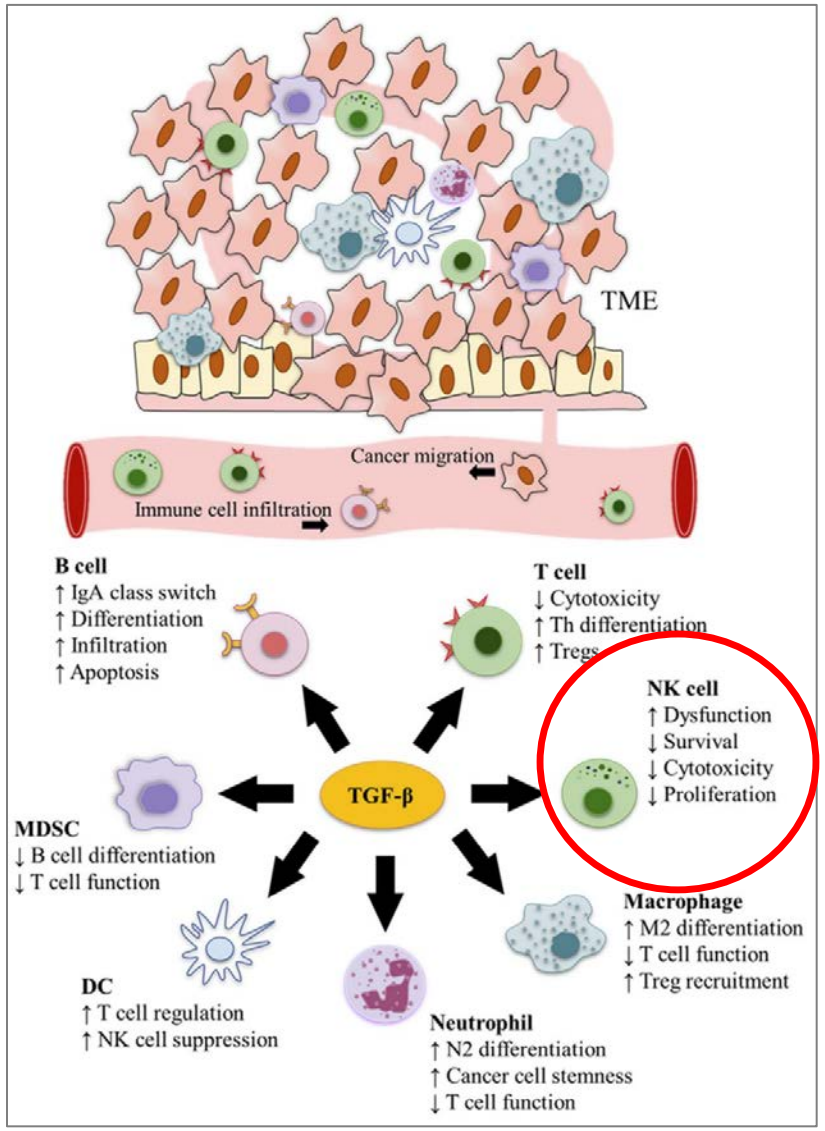
hYP7 GPC3 CAR Validation in Vivo by NCI Supports the Development of Cytovia GPC3 CAR iNK





Li et al, 2020 Gastroenterology 158(8): 2250 10.1053/j.gastro.2020.02.011

TGF-β KO in GPC3 CAR iNK Reduces Tumor Microenvironment (TME) Immunosuppression on NK Cells

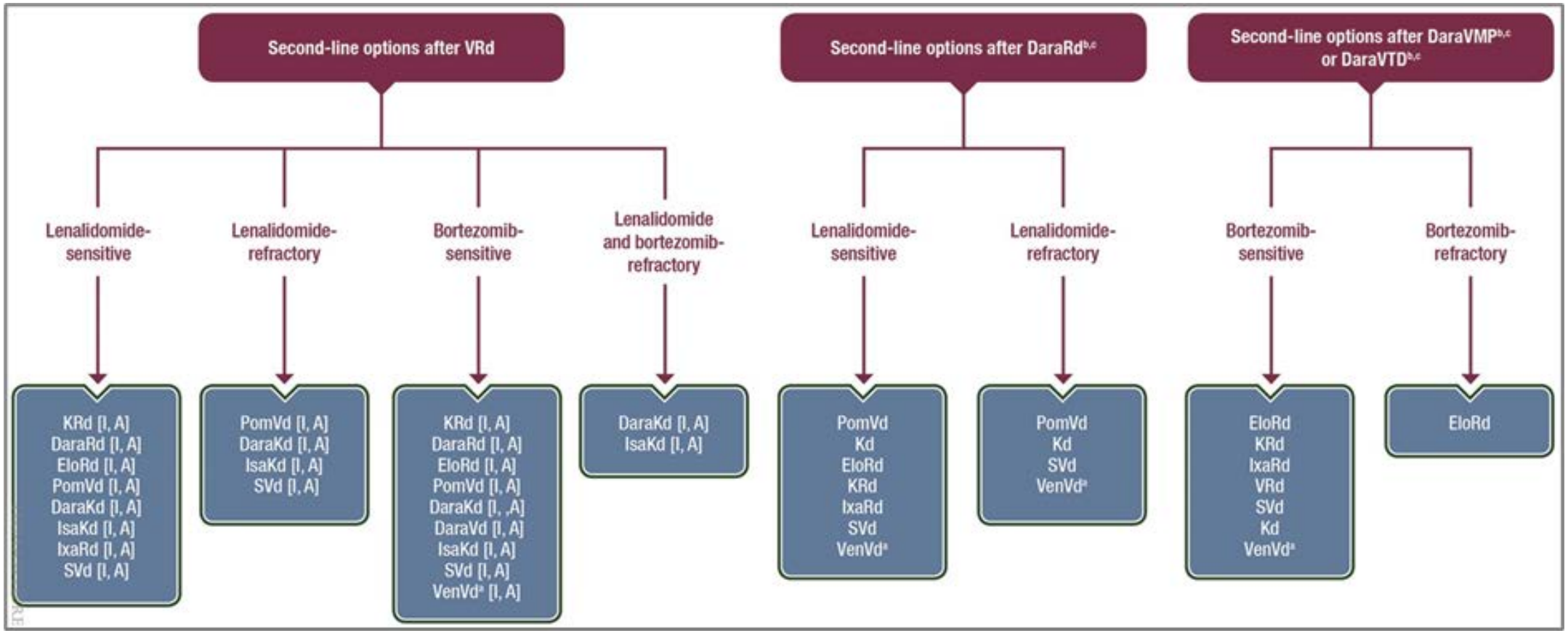


Xue et al, Natang, Cancers 2020, 12, 3099

- TME serves as a platform for cancer cells to reprogram infiltrating stroma cells, promoting tumorigenesis and cancer invasion
- TGF-β modulates cancer immunity and has pivotal roles in the immunomodulation of the TME

CD38 Multiple Myeloma Program

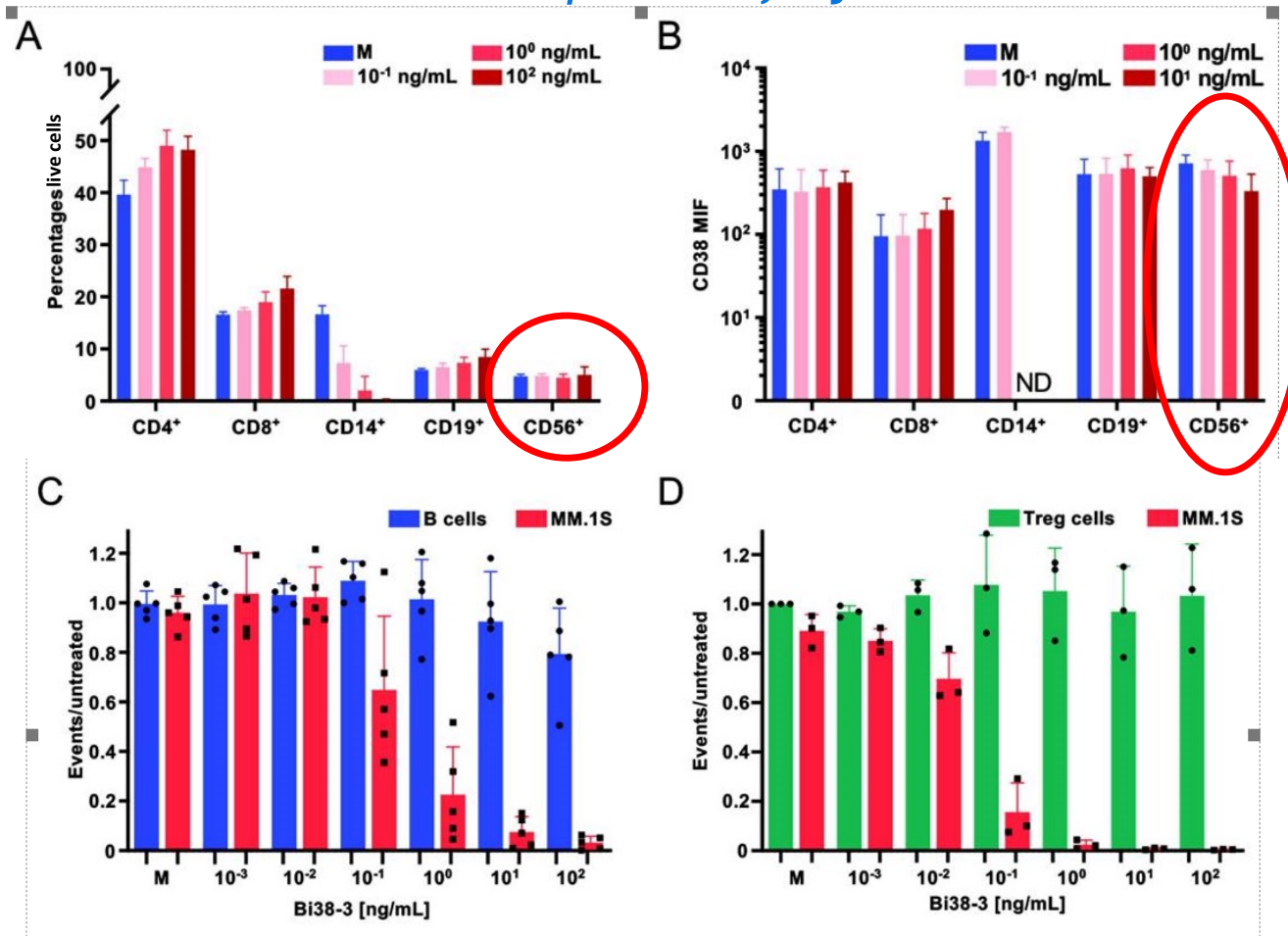
Despite Multiple Treatment Options Through Multiple Lines of Therapy, Myeloma Remains Incurable with CD38 Targeted Therapy Used Early

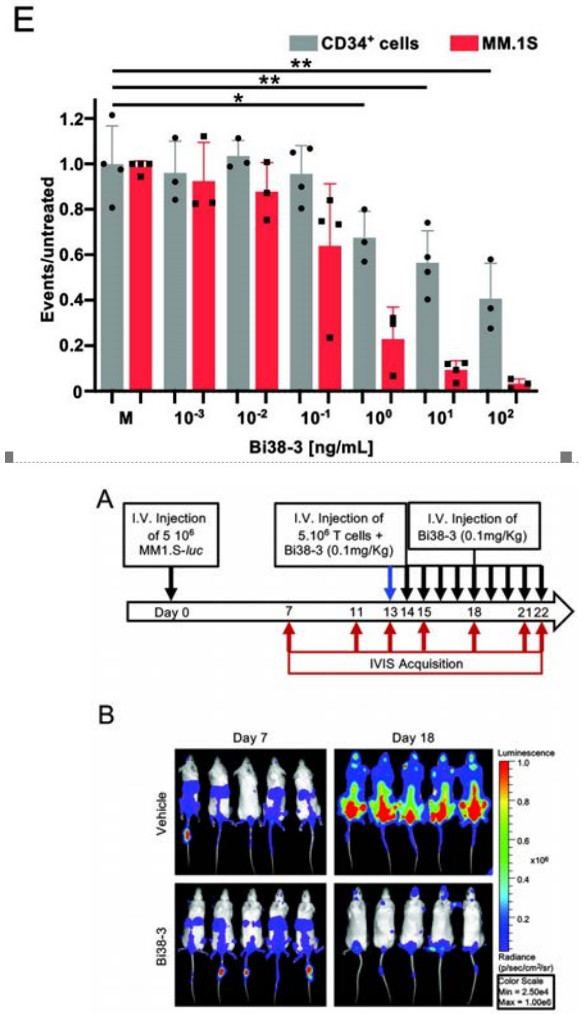


Multiple Myeloma: EHA-ESMO Clinical Practice Guidelines for Diagnosis, Treatment and Follow-up
Dimopoulos, MA et al, HemaSphere5(2):e528, February 2021. doi: 10.1097/HS9.0000000000000528

Cytovia Licensed CD38 Binder Selectively Kills Myeloma Cells While Sparing Immune Cells

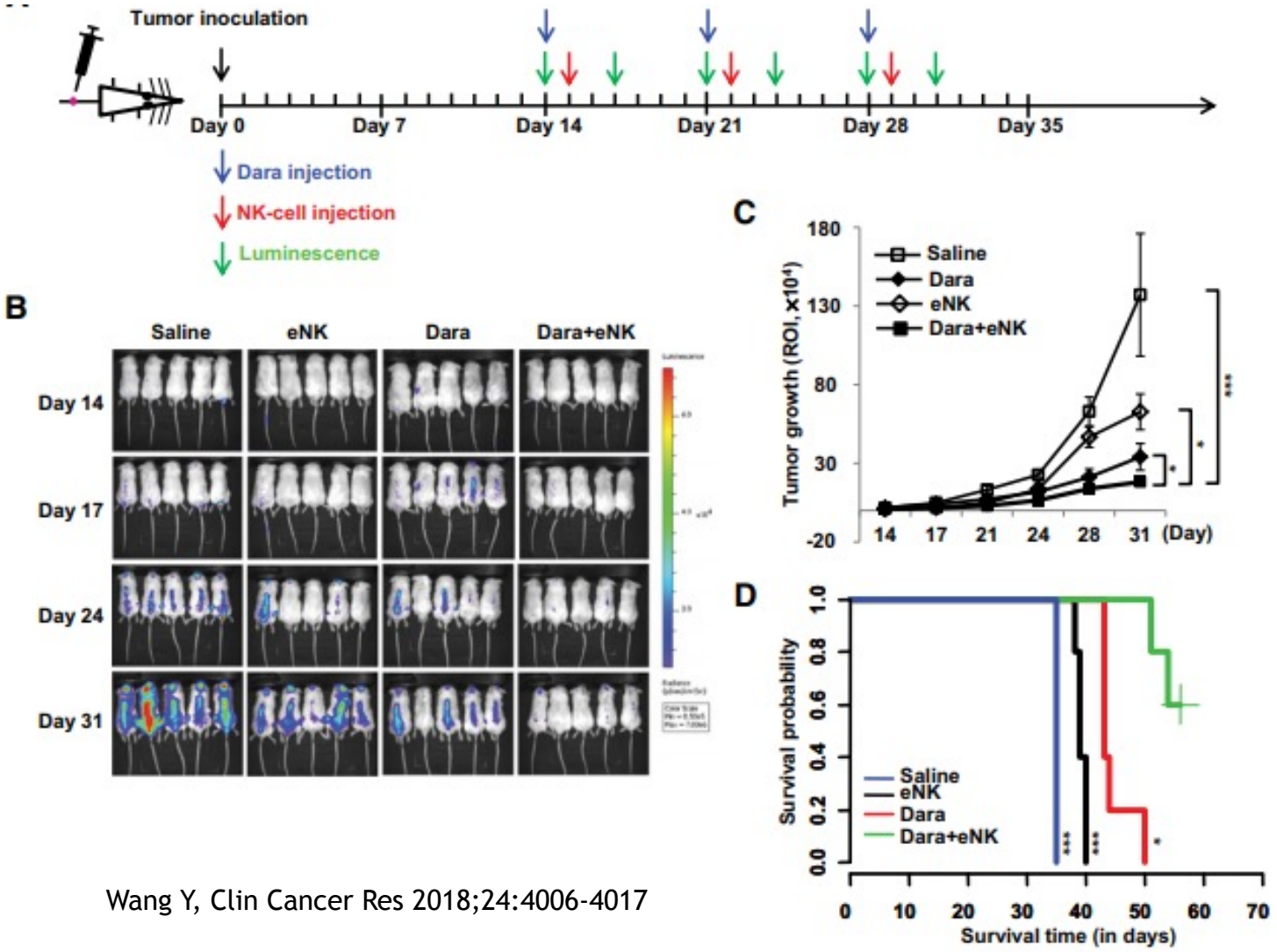
Enables development of Cytovia CD38 Flex-NKp46 Engager & CD38 CAR iNK





Fayon M et al, Haematologica 106(4) 2021 doi:10.3324/haematol.2019.242453

Superior Outcomes of Combining CD38 Antibodies With NK Cells in Multiple Myeloma



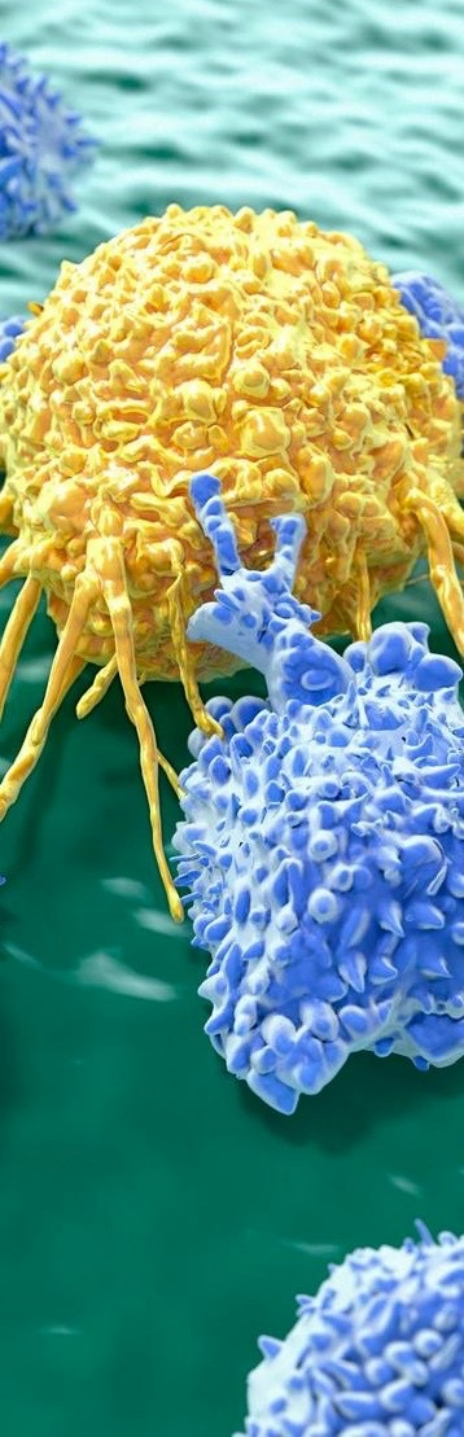
Wang Y, Clin Cancer Res 2018;24:4006-4017

Cytovia Therapeutics

Phase 1/2 Study: CYT-338 w/ or w/o CYT-100 for treatment of RRMM

CD38 Flex-NKp46 and iNK cell approaches in multiple myeloma

- First in human evaluation of CYT-338 will target RRMM who have failed an IMiD, a proteasome inhibitor, and a CD38 directed antibody with at least 2 prior lines of therapy
- Dose escalation to proceed without the use of CYT-100
- Data from dose finding in HCC study will inform potential to add iNK cells by amendment
- Weekly dosing of CYT-338 in cycle 1 followed by q4wk dosing in subsequent cycles

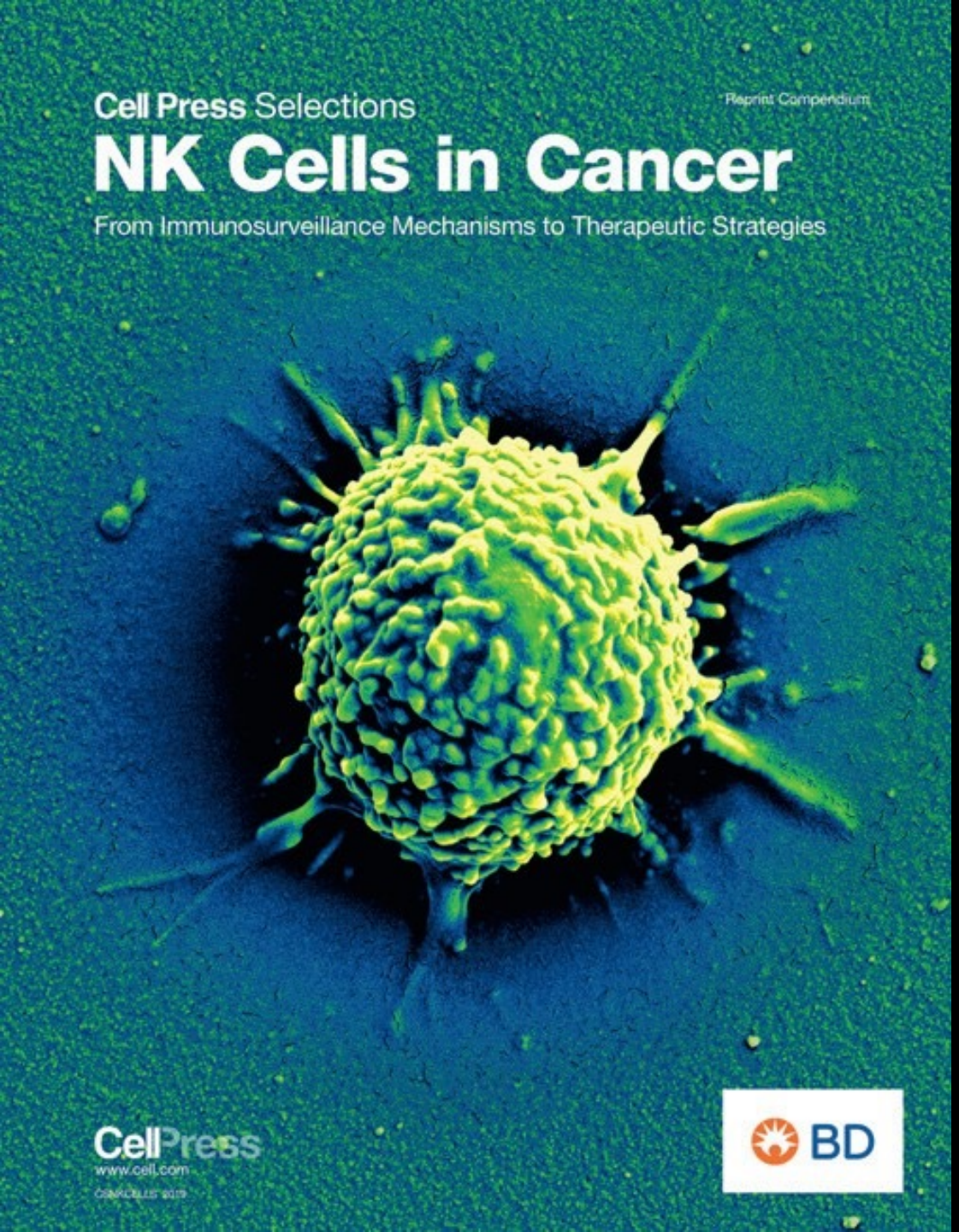


A Leader in NK Cancer Therapeutics

- **First NK company developing synergistic and proprietary NK therapeutic platforms**
  - Bispecific NKp46 engager antibodies (Flex-NKp46)
  - iPSC derived Universal NK cells (iNK)
  - Optimized gene edited iNK cells including CAR iNK cells
  - Unique ability to combine Flex-NKp46 and iNK cells

- **First-in-class therapeutic candidates with $1bn sales potential and multiple INDs in 2022**
- **Differentiated pipeline in solid tumors with:**
  - GPC3 Solid Tumor Pipeline: GPC3 Flex-NKp46 engager +/- Universal iNK cells; GPC3 CAR iNK
- **Validated target in liquid tumors;**
  - CD38 Hematologic Malignancies: CD38 Flex-NKp46 Engager +/- Universal iNK cells and CD38 CAR iNK

- **Internal R&D and GMP manufacturing cell & gene infrastructure established with a highly experienced team**
- **CytoLynx JV to accelerate China market access & global development**



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