TMUNITY™

Creating Smarter T Cells to
Transform Treatment and Change Lives

Tmunity Corporate Presentation

Cowen and Company's 40th Annual Health Care Conference

March 2, 2020

Forward-looking statements

This presentation contains forward-looking statements. All statements other than statements of historical facts, including statements regarding our future results of operations or financial condition, business strategy, and plans and objectives of management for future operations, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “believe,” “will,” “may,” “estimate,” “continue,” “anticipate,” “intend,” “should,” “plan,” “expect,” “predict,” “could,” “potentially,” or other similar expressions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends, which we believe may affect our financial condition, results of operations, business strategy, and financial needs.

These statements involve known and unknown risks, uncertainties, and other factors that may cause our actual results of operation, financial condition, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Although we believe that the expectations reflected in the forward-looking statements contained in this presentation are reasonable, we caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, about which we cannot be certain. Moreover, we operate in a competitive and rapidly-changing industry in which new risks may emerge from time to time, and it is not possible for management to predict all risks.

We cannot assure you that the forward-looking statements in this presentation will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. We do not undertake to update any of the forward-looking statements after the date of this presentation, except to the extent required by law.

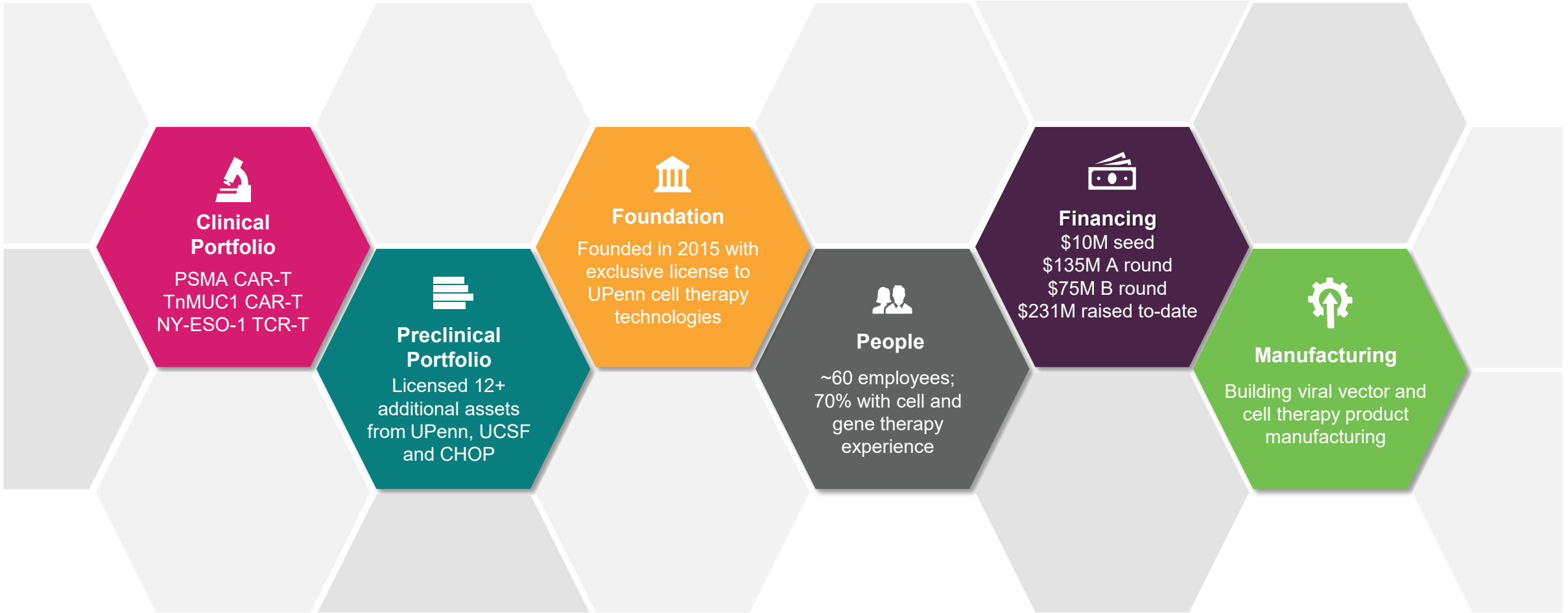
Tmunity is developing the next generation of cutting-edge cancer therapies

We are a private, clinical stage, vertically integrated biotech company developing the next generation of cutting-edge CAR-T and TCR immunotherapies to cure cancer and save lives

Our focus is on developing products to address some of the most challenging solid tumors and underserved hematological cancers

We are restoring hope for patients

Built on a world-class foundation

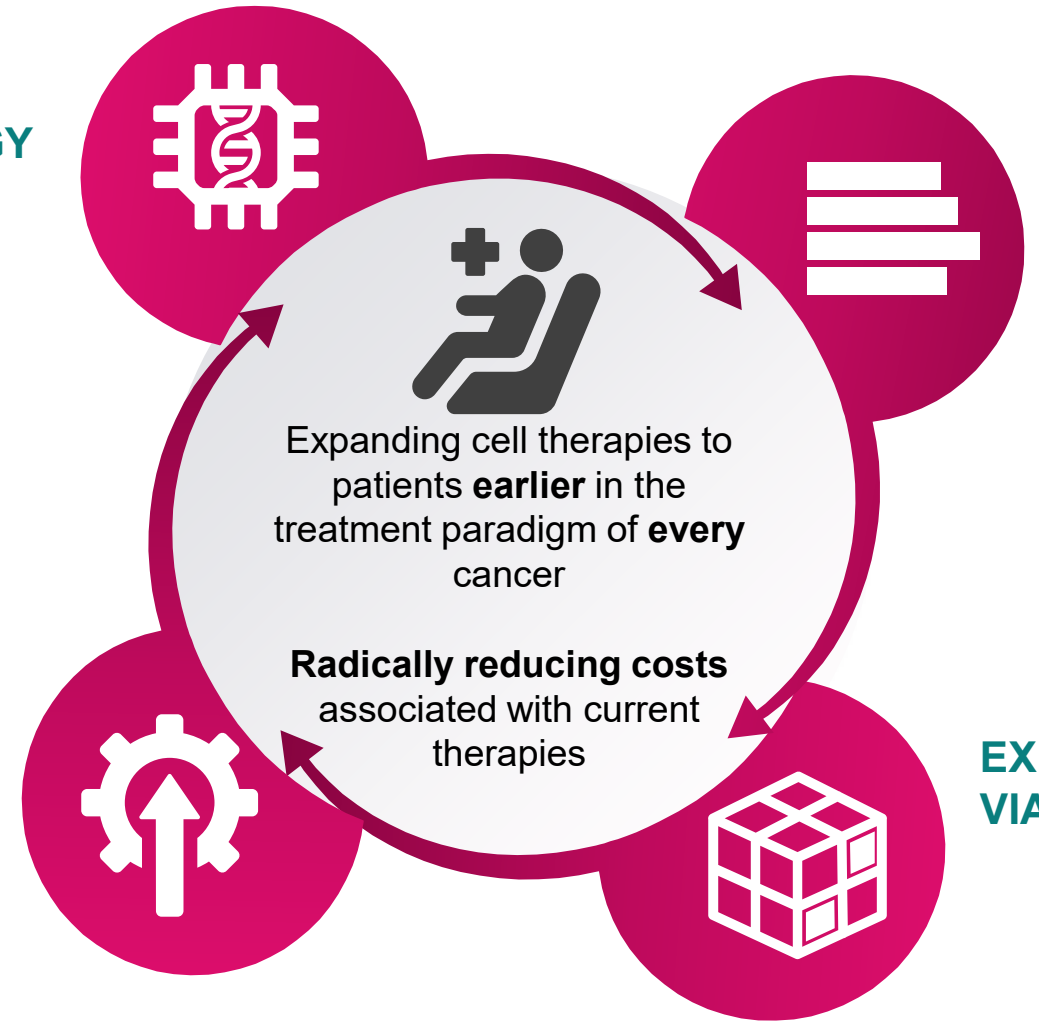


Tmunity's competencies:

Positioned to overcome the problems with current therapies

EXPERTS IN SYNTHETIC BIOLOGY AND CELL AND GENE ENGINEERING

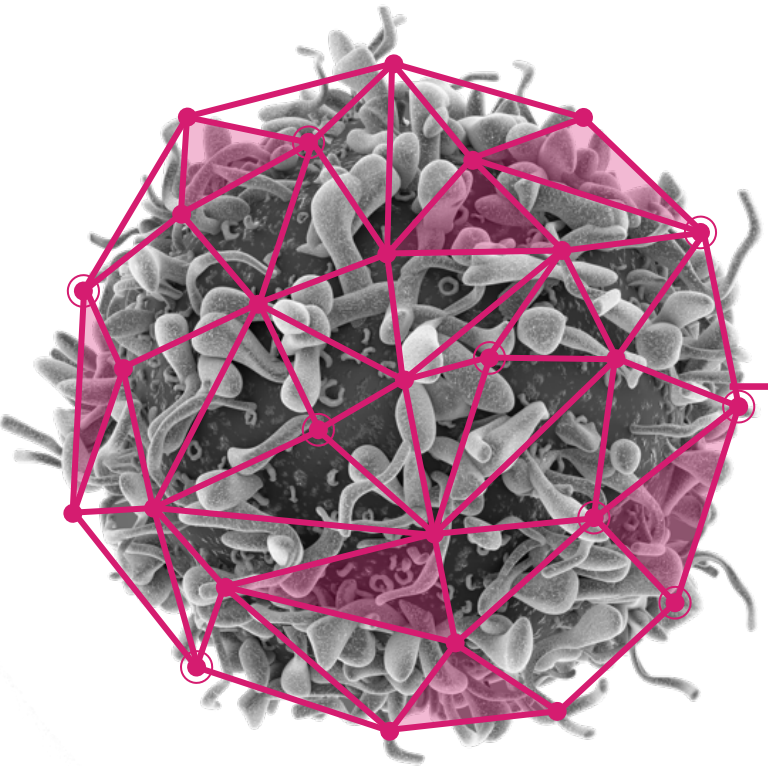
INDUSTRY LEADING AND HIGHLY INNOVATIVE PIPELINE



MANUFACTURING THE RIGHT PRODUCT

EXECUTION OF PIPELINE VIA UNIQUE MODEL

Tmunity's innovation to disrupt the tumor microenvironment



OPTIMIZE TARGETING

- Optimizing how the CAR-T/TCR 'sticks to the target'
- Making T-cells express more than one targeting 'warhead'

OPTIMIZE SIGNALING

- Novel co-stimulators energizing cells
- Additional signal boosting that supercharges cells

OVERCOME IMMUNOSUPPRESSION

- Using CRISPR gene-editing to knock-out checkpoints
- 'Armoring' cells to concurrently target checkpoints
- Adding payloads to make cells persist and endure

TUMOR INFILTRATION

- Breaching the protective matrix surrounding the tumor

Innovative pipeline of potentially transformative therapies*

	Program	Indication	Preclinical Development	IND-Enabling	Phase 1
Solid Tumors	**PSMA CAR-T**	Metastatic castrate-resistant prostate cancer			
	NY-ESO-1 TCR-T Triple Knockout TCR (NYCE)**	Melanoma, synovial sarcoma			
	TnMUC1 CAR-T	Advanced TnMUC1 positive solid tumors			
	FAP CAR-T	Pancreatic cancer, NSCLC, other solid tumors			
	GPC2 CAR-T**	Neuroblastoma, neuroendocrine tumors			
	H3.3K27M TCR***	Diffuse intrinsic pontine glioma			
	IL13 Rα2 CAR-T	Glioblastoma			
	PSCA CAR-T	Prostate cancer			
Liquid Tumors	**NY-ESO-1 TCR-T Triple Knockout TCR (NYCE**)**	Multiple myeloma			
	CD33HSC/CD33 CAR-T	Acute myeloid leukemia			

The table illustrates our discovery programs and opportunities as of March 2020 * Full pipeline not shown ** NYCE- New York CRISPR-edited ***In collaboration with UCSF **** In collaboration with CHOP

PSMA*: Opportunity in metastatic castrate-resistant prostate cancer

175K
New cases in U.S. per year

30%
5 year overall survival in metastatic patients

Challenge:
- ~20% of prostate cancer patients develop mCRPC within 5 years of diagnosis

Program status:
- 12 patients dosed across 5 cohorts (enrollment in cohort 4 and cohort 5 ongoing)
- Opened Tmunity-sponsored trial with additional dosing options and sites

Future milestones
- Identify phase 2 dose (4Q20) and commence phase 2 trial (2021)
- Explore path to progress PSMA CAR-T therapy rapidly in the earlier treatment paradigm
- Life-cycle: humanized CAR-T, multivalency

Metastatic Castrate-Resistant Prostate Cancer (mCRPC)

#1 cause of cancer in men

This cancer forms in tissues of the prostate gland and can progress to other organs despite androgen depletion therapy (ADT)

* Prostate Specific Membrane Antigen https://cancerstatisticscenter.cancer.org

PSMA-TGFβDN* CAR-T: Structure of the clinical CAR

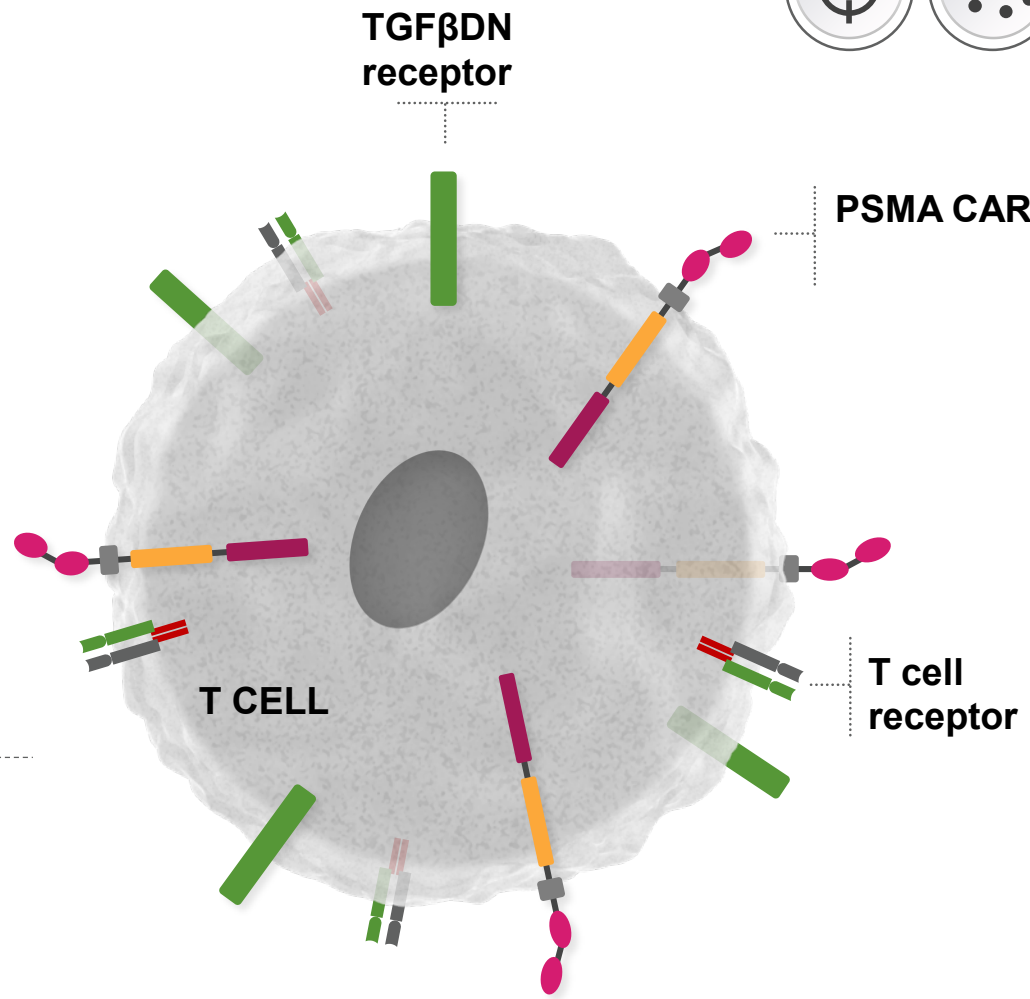
Single chain variable fragment (scFv) from **murine scFv domain J591** recognizing the PSMA antigen
Extracellular targeting domain

CD8 Transmembrane linker

CD3ζ costimulatory domain delivers initial activation signal in the CAR-T
Intracellular signaling 1

4-1BBζ T cell signaling and amplification domain delivers signal 2 in the CAR-T
Intracellular signaling 2

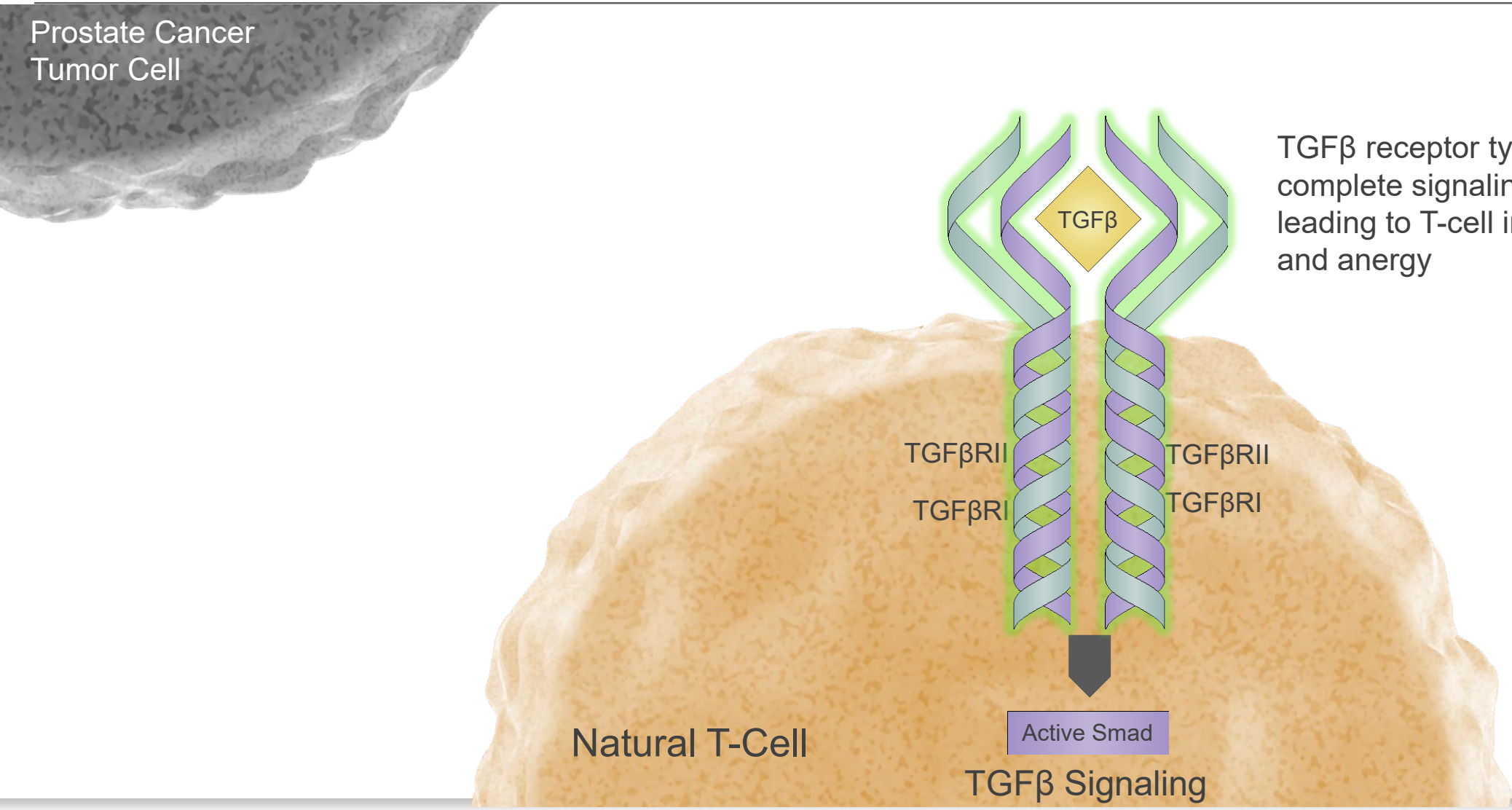
TGFβDN receptor Renders the T cell "uninhabitable" by a key immunosuppressive pathway linked to the myeloid compartment
"The Armor"



*PSMA-TGFβDN: Prostate Specific Membrane Antigen-Transforming Growth Factor beta Dominant Negative

Key differentiator: TGFβ (Transforming growth factor beta)

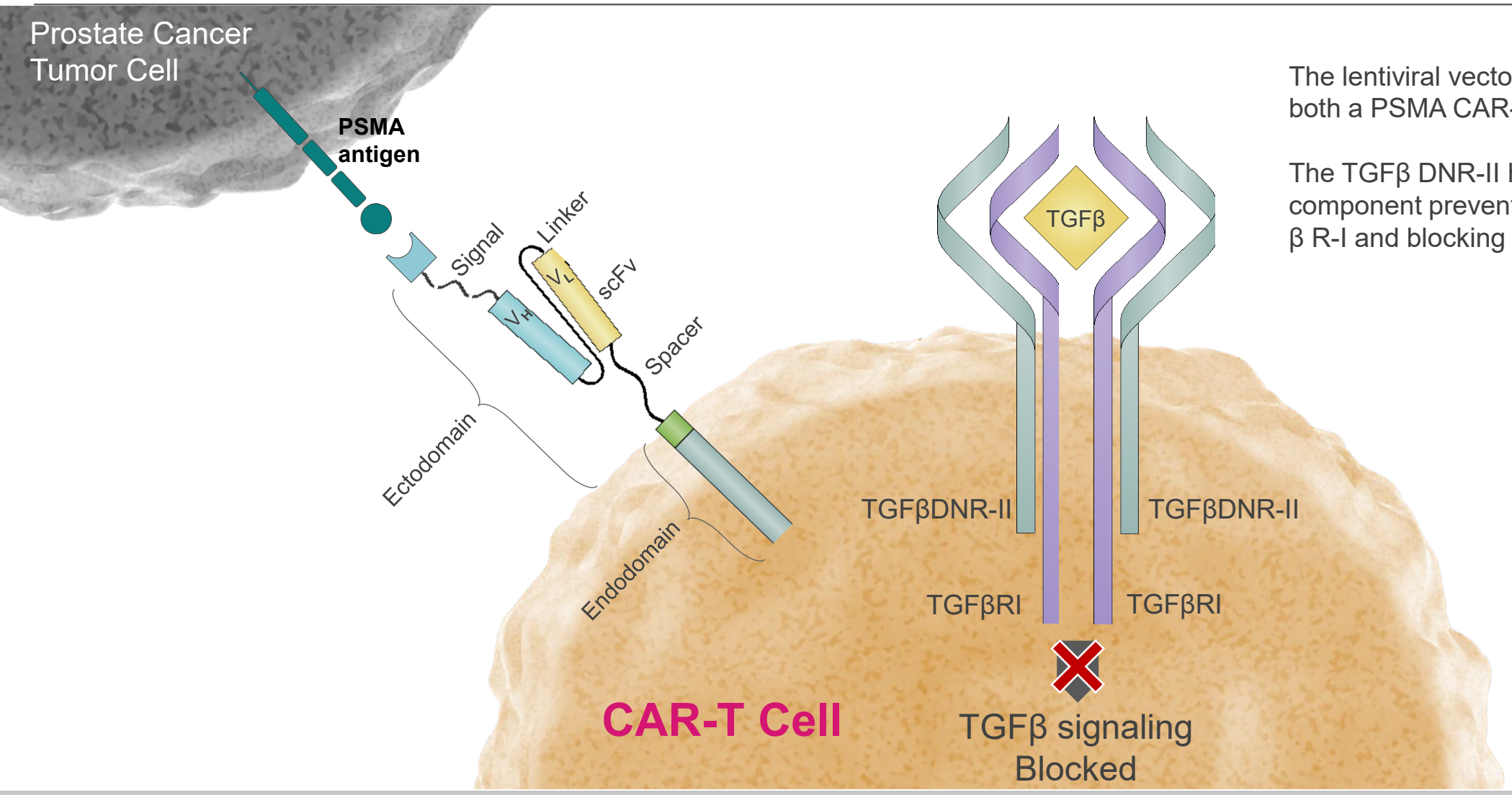
A potent immunosuppressor of T-Cells expressed in prostate cancer tumor microenvironment



TGFβ receptor type I and II couple to complete signaling mechanism leading to T-cell immunosuppression and anergy

PSMA CAR-T & TGFβ dominant negative receptor type II

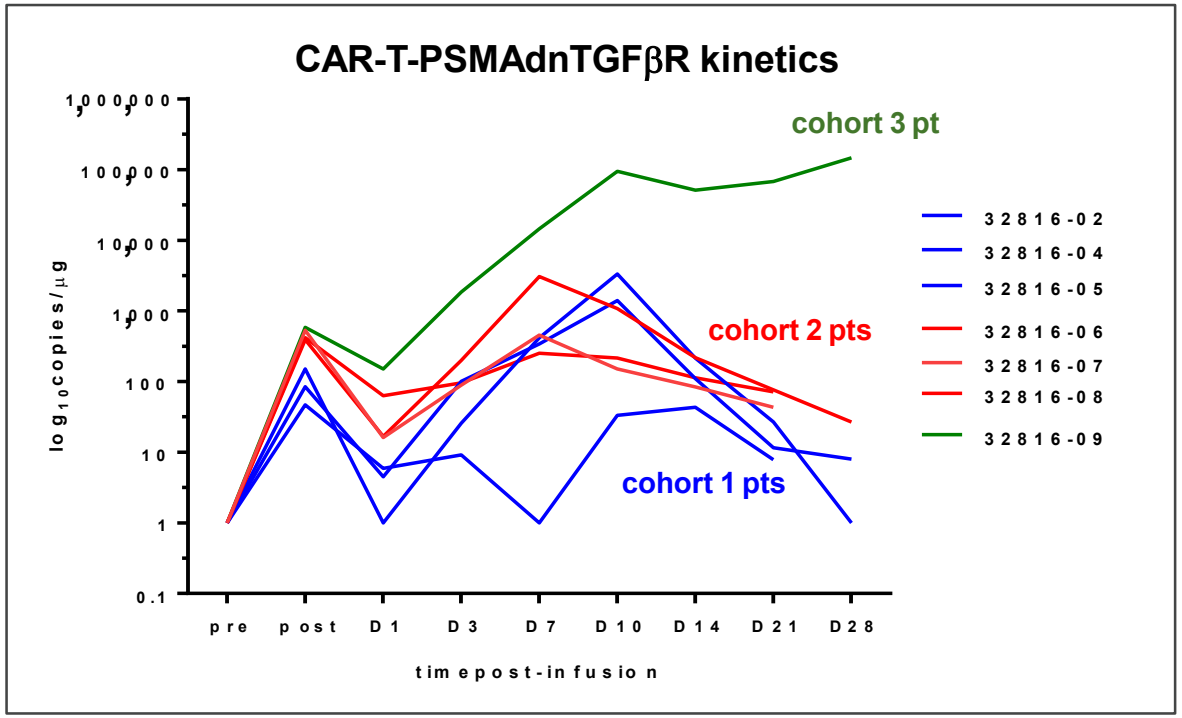
A dual mechanism of action targeting approach in prostate cancer

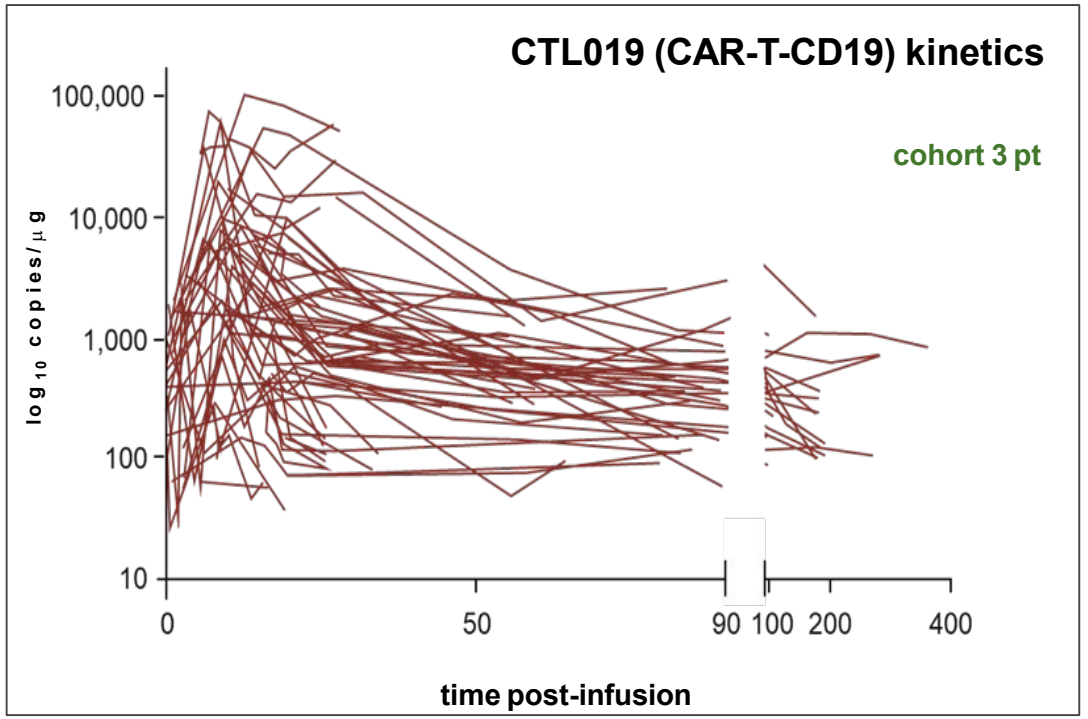


The lentiviral vector contains coding for both a PSMA CAR-T and a TGFβ DNR-II

The TGFβ DNR-II has a truncated component preventing coupling with TGF β R-I and blocking signaling within T-cell

Expansion kinetics in first three cohorts compared with CD19 based CAR-T expansion





The first patient in cohort 3 (first to receive LD) demonstrated increased expansion kinetics when compared to the expansion of CTL019 (CD19 CAR-T) in acute lymphoblastic leukemia patients with CD19 CAR-T

Source: Unpublished data, University of Pennsylvania

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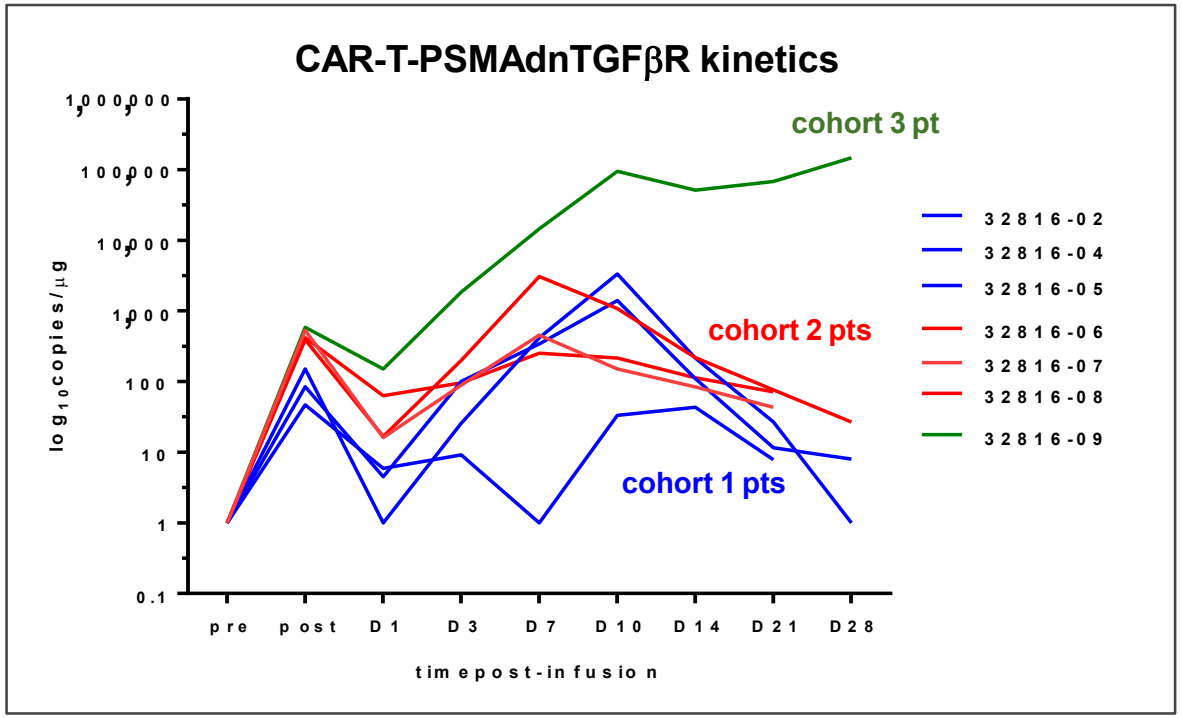

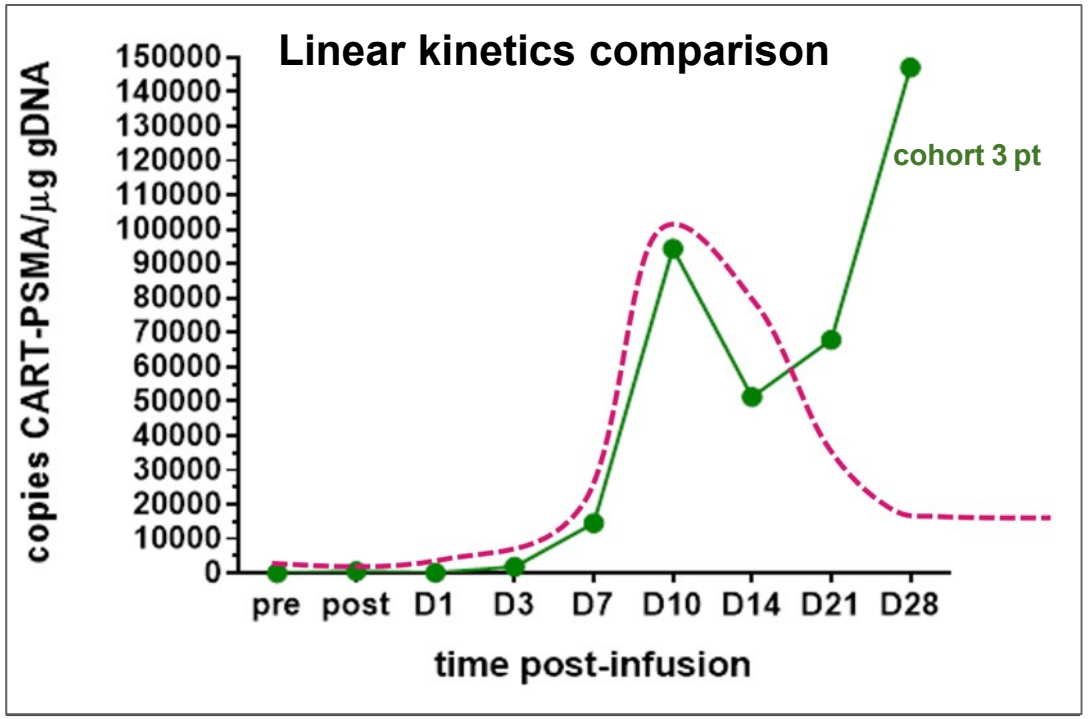

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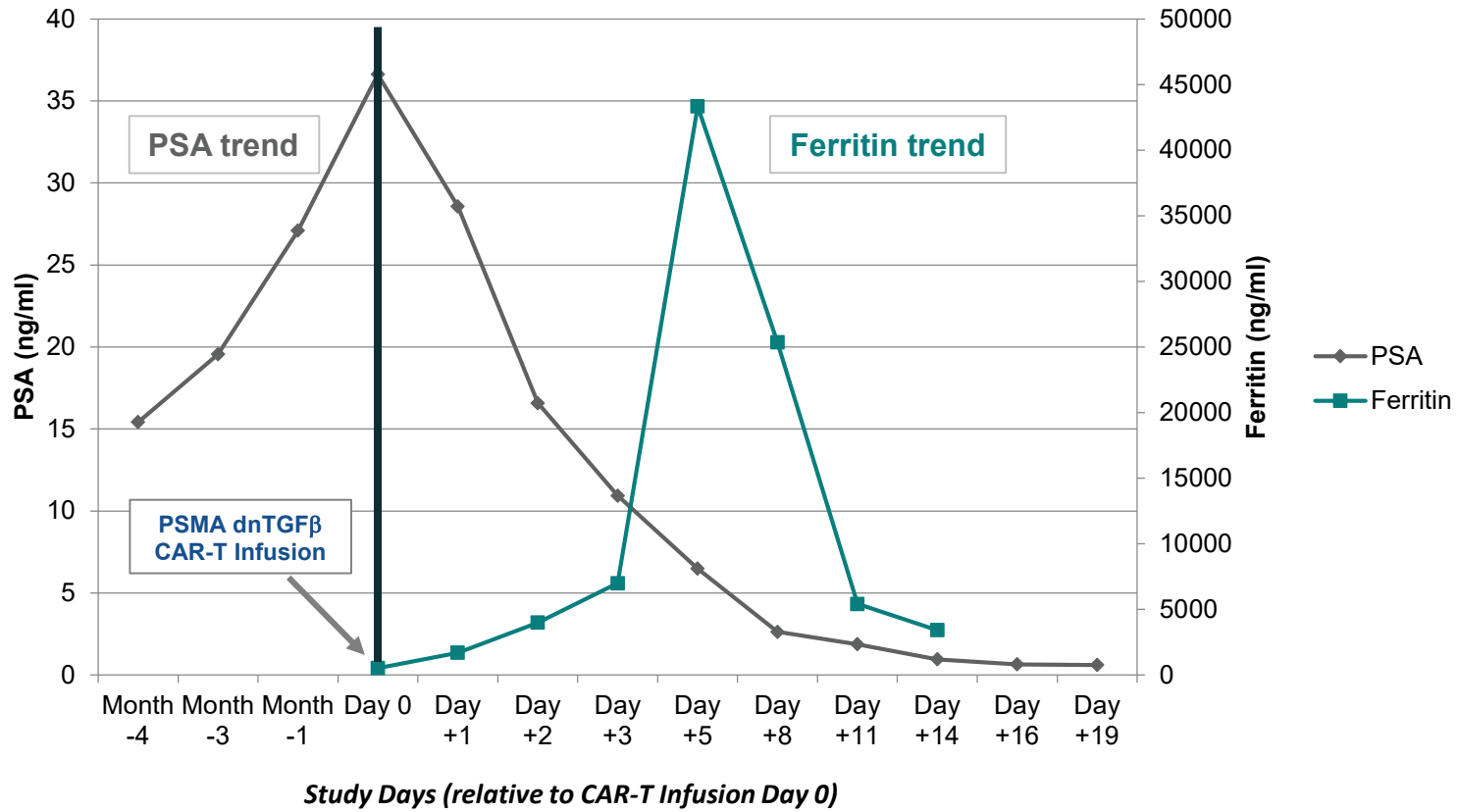
Data from PSMA-01
Patient 1 Cohort 3: Medical History and Clinical Course

- 72 year old male originally diagnosed with non-metastatic prostate cancer in 2006 and diagnosed as metastatic in 2014
- Treatments included: surgery, radiation and four lines of standard therapy
- Patient had a low disease burden with bone-only disease (non-measurable by ^RECIST criteria) at presentation
- Although the Grade 4 CRS was resolving, the patient developed enterococcal septicemia
- The patient passed away due to sepsis



^ RECIST= response evaluation criteria in solid tumors; CRS= cytokine release syndrome

Source: Unpublished data, University of Pennsylvania

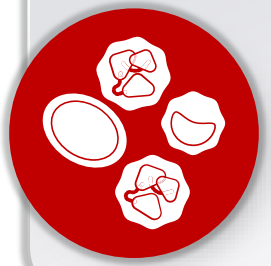
TnMUC1: Potential high-value target
First patient dosed safely

NON-SMALL CELL LUNG CANCER
Incidence (U.S.): 194K
5 yr OS (metastatic): 6%

PANCREATIC CANCER
Incidence (U.S.): 57K
5 yr OS (metastatic): 3%

TRIPLE NEGATIVE BREAST CANCER
Incidence (U.S.): 41K
5 yr OS (metastatic): 11%

OVARIAN CANCER
Incidence (U.S.): 22.5K
5 yr OS (metastatic): 29%



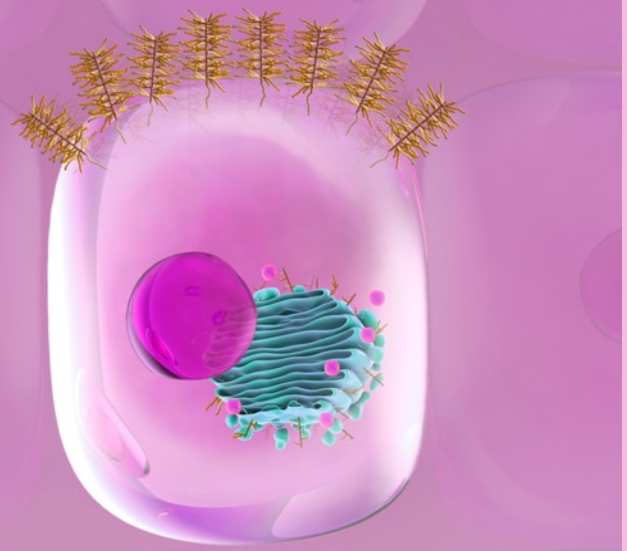
MULTIPLE MYELOMA
Incidence (U.S.): 32K
5 yr OS (R/R*): 22%

Program status:
- Clinical sites initiated in 4Q19
- First patient dosed; Expect to dose 3 cohorts in 2020

All statistics for U.S.; https://seer.cancer.gov/statfacts, Overall Survival (OS) in the metastatic (distant) stage of cancer
** R/R: relapsed / refractory*

TnMUC1 targeting abnormal glycosylation

Normal tissue heavily glycosylated mucin1



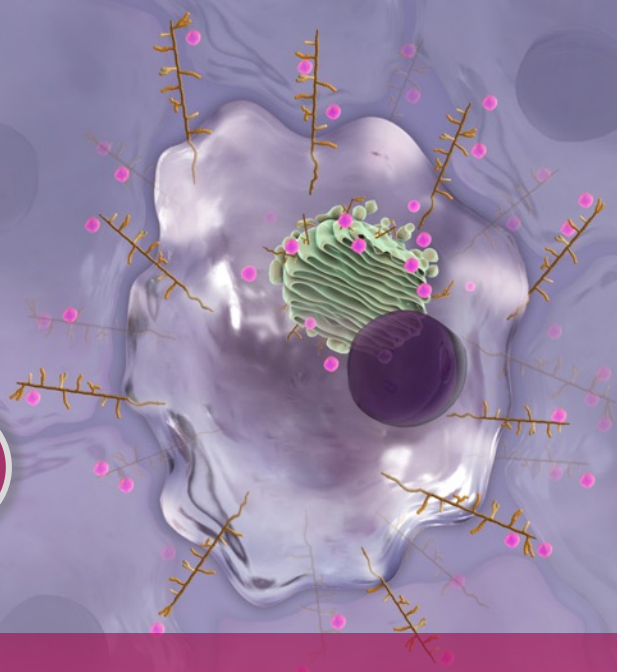
Normal glycosylated mucin1

Normal carbohydrate chains

Gastric epithelial cell: TnMUC1 only found in the Golgi complex as a precursor to the epithelial lining (mucin1)

VS.

Cancer with aberrant "stumpy" TnMUC1



Under-glycosylated mucin1

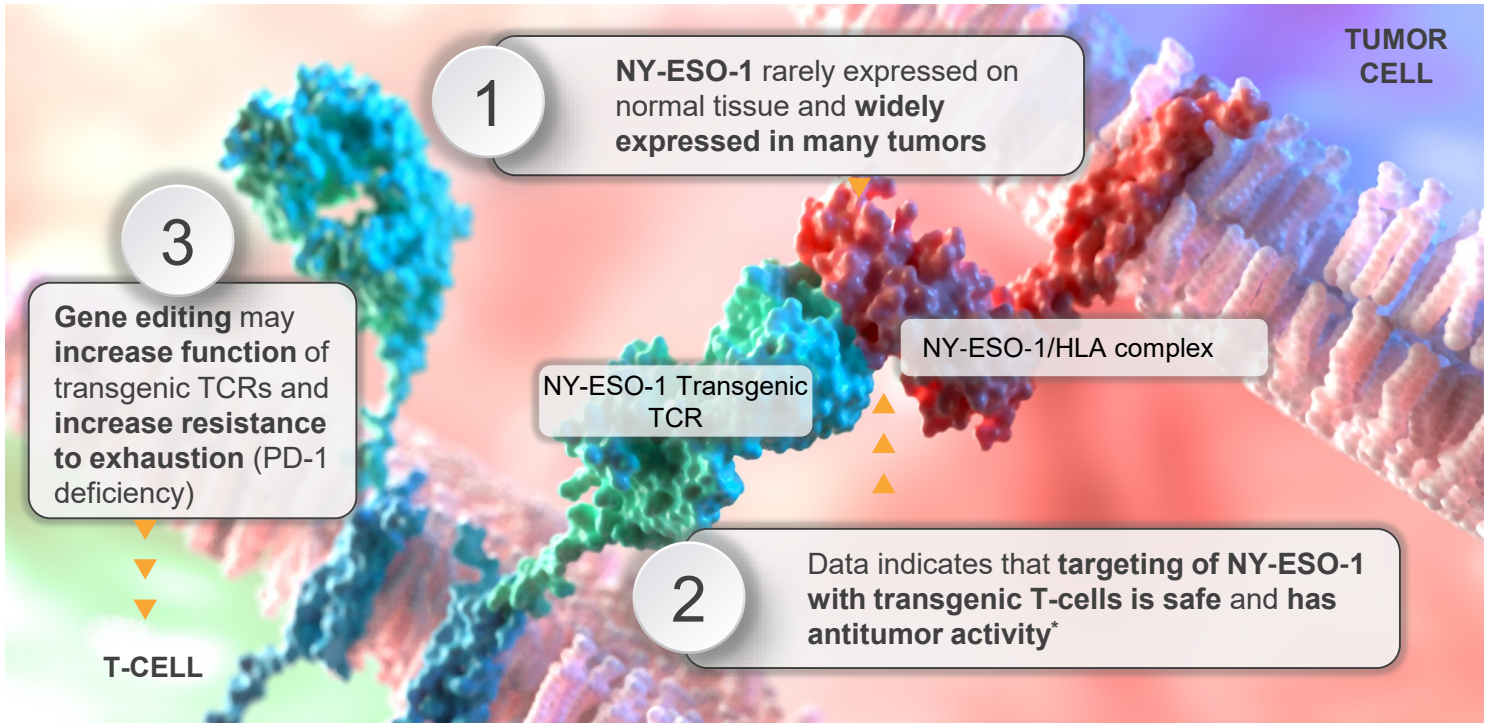
Abnormal carbohydrate chains

Ovarian cancer cell: Stumpy mucin1 (TnMUC1) generated as the enzyme process to glycosylate the mucin1 protein backbone is disabled

COSMC mutations thought to enhance the process of metastasis by permitting easy slippage of transformed cells to the extracellular space

NY-ESO-1-TCR: 1st CRISPR-based product tested in humans

*One of the top 10 Science News stories of 2019**

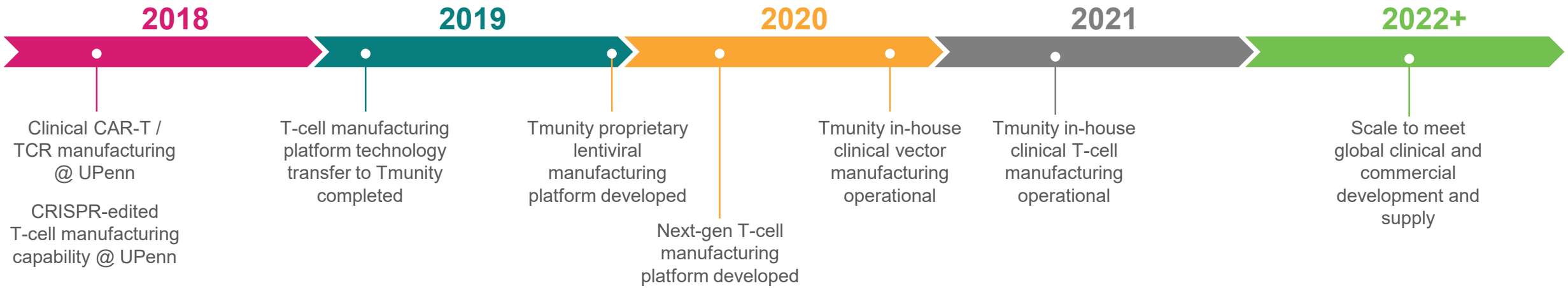


- ✓ **Tmunity has** developed *in-house* gene-editing capabilities, including multiplexing via CRISPR
- ✓ **Tmunity has** proven ability to manufacture a CRISPR-based product
- ✓ **Tmunity** building upon current *in-house* gene-editing platform for translation to manufacture of future **allogeneic** therapies

- First clinical of evidence of CRISPR edited T cells persisting in circulation in 3 patients with myeloma and sarcoma
- Data presented at American Society of Hematology in Dec 2019
- Published in *Science* (Feb 6, 2020)

*Science News Dec 16th 2019

Building next-generation manufacturing
Reduced costs and improved reliability



Capabilities

- Fully integrated product and process development
- Manufacturing expertise: Vector and T-cell
- Technology innovation and integration: cell and vector processing + analytics + automation + digital applications

Oct ‘19 Series B Closed: $75M Untranched

$231M raised-to-date

2019 Accomplishments and Future Milestones

COMPLETED MILESTONES

- ✓ First-in-human data from PSMA-01 CAR-T in mCRPC
- ✓ First patient dosed with TnMUC1 CAR-T
- ✓ Data on initial cohort of first-in-human CRISPR-engineered TCR product
- ✓ Delivered viral vector research-grade production, process dev, analytical dev and full tech-transfer of CAR-T platform
- ✓ Series B financing: $75 million

FUTURE MILESTONES

- Dose first 3 cohorts PSMA-02 trial, expand clinical site footprint (2020) and select phase 2 dose
- Commence phase 2 trial PSMA U.S. and ROW (2021)
- Establish safety TnMUC1-01 and develop signal in different tumor types, expand clinical site footprint
- Advance and file new INDs
- cGMP manufacturing readiness — vector (2020) + internal cell product manufacturing (2021)

Our approach: Developing next-generation cancer therapies