

# Pioneering the Future of Genomic Medicines

May 2022

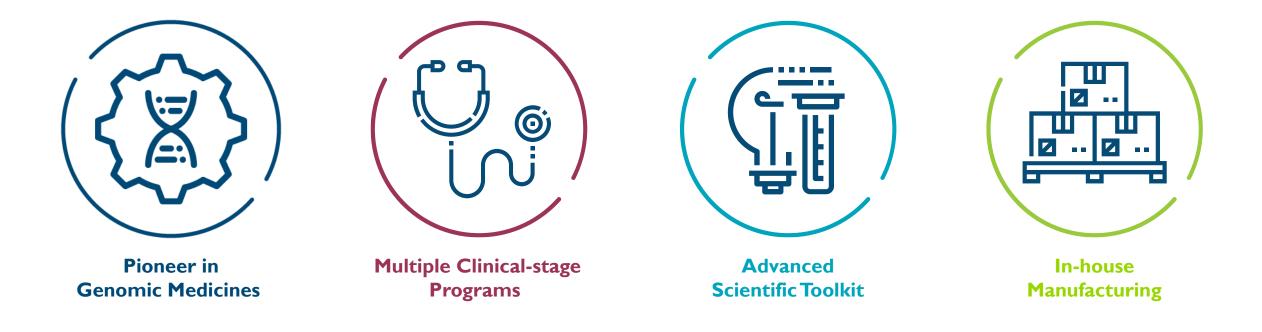
# **Forward-Looking Statements**

This presentation contains forward-looking statements regarding our current expectations. These forward-looking statements include, without limitation, statements relating to the potential to develop, obtain regulatory approvals for and commercialize durable, safe and effective therapies to treat certain diseases and the timing, availability and costs of such therapies, the potential to use ZFP, ZFP-TF, ZFN, ZFP-Epi, CAR-Treg and other technologies to develop durable, safe and effective therapies, the potential for us to benefit and earn milestone and royalty payments from our collaborations and the timing of such benefits and payments, our cell therapy strategy, including expansion to additional indications, the submission of a protocol amendment in the Phase 3 AFFINE clinical trial of giroctocogene fitelparvovec and the anticipated resumption of dosing of patients in such trial, our financial resources and expectations, our 2022 financial guidance, plans and timelines for us and our collaborators to enroll patients in and conduct clinical trials and present clinical data, the anticipated advancement of our product candidates to late-stage development, including future Phase 3 trials, plans and timing for the transition of the SAR445136 program from Sanofi to Sangamo, and other statements that are not historical fact. These statements are not guarantees of future performance and are subject to certain risks and uncertainties that are difficult to predict. Our actual results may differ materially and adversely from those expressed. Factors that could cause actual results to differ include, without limitation, risks and uncertainties related to the effects of the evolving COVID-19 pandemic and the impacts of the pandemic and other factors and its impact on the global business environment, healthcare systems and business and operations of us and our collaborators, including the initiation and operation of clinical trials; the research and development process; the uncertain timing and unpredictable results of clinical trials, including whether initial clinical trial data will be representative of final clinical trial data and whether final clinical trial data will validate the safety, efficacy and durability of product candidates; the impacts of clinical trial delays, pauses and holds on clinical trial timelines and commercialization of product candidates, including the risk that any necessary conditions to resume dosing of patients in the Phase 3 AFFINE trial of giroctocogene fitelparvovec are not met in a timely manner, or at all, including the risk that protocol amendments for the Phase 3 AFFINE trial of giroctocogene fitelparvovec may not be accepted by the relevant review bodies in a timely manner, or at all, which could further delay or preclude further patient dosing in this trial; the unpredictable regulatory approval process for product candidates across multiple regulatory authorities; the manufacturing of products and product candidates; the commercialization of approved products; the potential for technological developments that obviate technologies used by us and our collaborators; the potential for us or our collaborators to breach or terminate collaboration agreements; the potential for us to fail to realize our expected benefits of our collaborations; and the uncertainty of our future capital requirements, financial performance and results. There can be no assurance that we and our collaborators will be able to develop commercially viable products. These risks and uncertainties are described more fully in our Annual Report on Form 10-K for the year ended December 31, 2021 and as supplemented in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022. Forward-looking statements contained in this presentation speak only as of the date hereof, and we undertake no duty to update such information except as required under applicable law. This presentation concerns investigational product candidates that are under preclinical and/or clinical investigation and which have not yet been approved for marketing by any regulatory agency. They are currently limited to investigational use, and no representations are made as to their safety or efficacy for the purposes for which they are being investigated. Any discussions of safety or efficacy are only in reference to the specific results presented here and may not be indicative of an ultimate finding of safety or efficacy by regulatory agencies. To supplement our financial results and guidance presented in accordance with GAAP, we present non-GAAP total operating expenses, which exclude stock-based compensation expense from GAAP total operating expenses. We believe that this non-GAAP financial measure, when considered together with our financial information prepared in accordance with GAAP, can enhance investors' and analysts' ability to meaningfully compare our results from period to period and to our forward-looking guidance, and to identify operating trends in our business. We have excluded stock-based compensation expense because it is a non-cash expense that may vary significantly from period to period as a result of changes not directly or immediately related to the operational performance for the periods presented. This non-GAAP financial measure is in addition to, not a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP. We encourage investors to carefully consider our results under GAAP, as well as our supplemental non-GAAP financial information, to more fully understand our business.



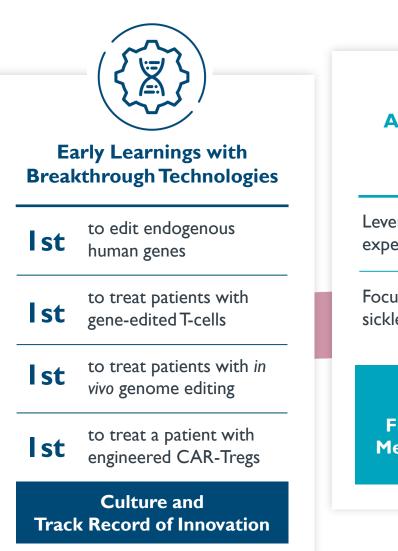
## Leading Genomic Candidates into the Clinic

We are a genomic medicines company dedicated to translating ground-breaking science into medicines that transform the lives of patients and families afflicted with serious disease





# **Building a Genomic Medicines Company**





Advancing Differentiated Genomic Medicines through the Clinic

Leverage robust toolkit and expertise to advance pipeline

Focus on hemophilia A, Fabry, and sickle cell disease

Pipeline of First-Generation Genomic Medicine Clinical Candidates

#### Pioneering the Future of Genomic Medicine

Expand utility of broad genomic engineering platform enabled by expertise in zinc fingers and CAR-Tregs

Deep pipeline of secondgeneration assets, focusing on autoimmune and CNS

Preclinical Pipeline Expansion Utilizing Second-Generation Genomic Engineering Platform

## Value Thesis

First-generation product candidates Fabry, Sickle Cell and HemA **in or advancing into late-stage clinical development;** provide insights for second-generation programs

01

Innovative second-generation candidates applying **differentiated genomic medicine capabilities** in cell therapy and genome engineering, with a focus in autoimmunity and CNS

02

**Expansive R&D discovery engine** supported by long history of innovation

03

(04

Five technology-validating blue chip biopharma partners offer domain expertise, up-front payments and a pathway to potential milestone payments

# (05)

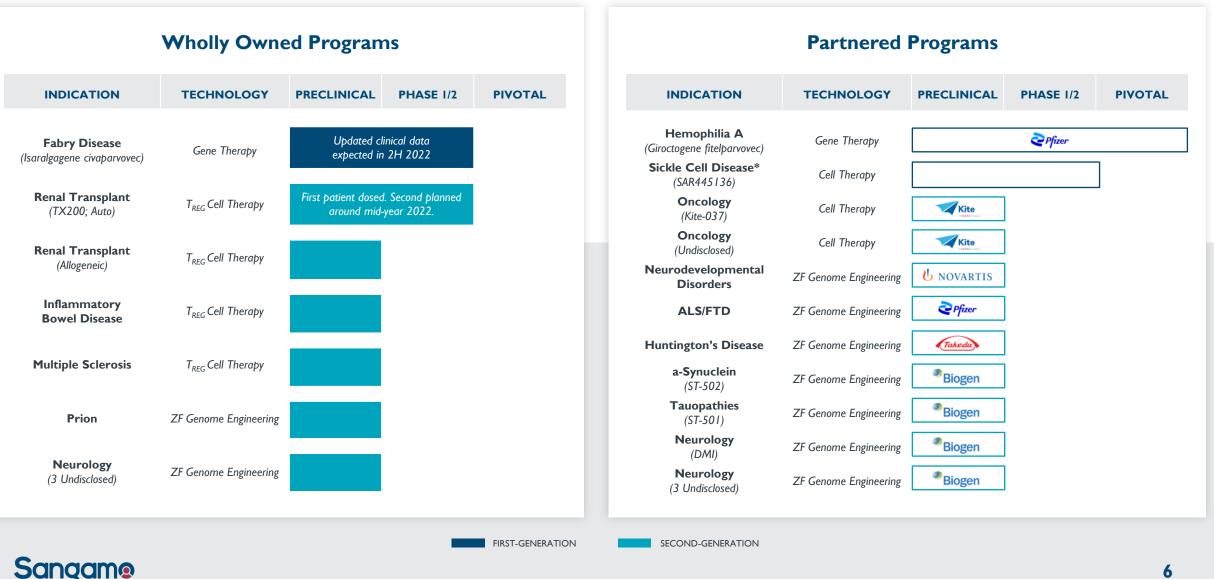
In-house cGMP manufacturing facilities provide control over quality, supply, timelines, cost and IP

Strong financial position to **take us through our key upcoming catalysts** 

06



# Robust Pipeline with Thoughtful Balance of Partnered and Wholly Owned **Programs**



\*transitioning to wholly owned program in June 2022

# First-Generation Programs

# Compelling Proof-of-Concept Clinical Data



## Sangamo's First-Generation Programs

First-Gen programs capitalize on our expertise in gene therapy and cell therapy in an effort **to bring potentially transformative genomic medicines to patients with rare disease**  **Fabry Disease** (isaralgagene civaparvovec, or ST-920)

Phase 1/2

Preliminary Ph 1/2 data presented at WORLD 2022; ninth patient dosed; completed dose escalation

Ph 3 planning initiated

Sangame

Hemophilia A (giroctocogene fitelparvovec)

Phase 3

Provided Ph 1/2 2-year follow-up data at ASH 2021

Ph 3 trial is over 50% enrolled (currently voluntarily paused, but with FDA hold lifted)

Sangamo Offizer

Sickle Cell Disease (SAR445136)\*

Phase 1/2

Preliminary Ph 1/2 data presented at ASH 2021; fifth patient dosed

Ph3 enabling activities in progress

Program transition planned for June 2022

Sangame SAN

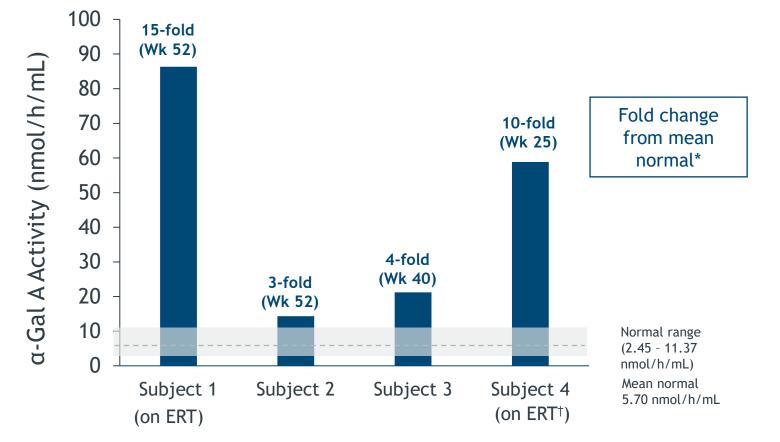
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# Fabry Disease (isaralgagene civaparvovec or ST-920)

# Fabry disease: ST-920 Efficacy Data

STAAR data, WORLD, February 8, 2022 (Abstract #LB-20). Cut-off Nov 9, 2021.



Biomarker results were evaluated from the 4 subjects in dose cohorts 1 and 2 (0.5e13 vg/kg and 1.0e13 vg/kg) as of the cut-off date of November 9, 2021.

\*Fold change was calculated at last measured time point. α-Gal A activity was measured using a 3-hour reaction time and is presented in nmol/h/mL. For Subjects 1 and 4, this was sampled at ERT trough. Normal range and mean were determined based on healthy male individuals.

<sup>†</sup>Subject was withdrawn from ERT at week 24.

ERT, enzyme replacement therapy; vg/kg, vector genomes per kilogram of body weight.



Wholly owned gene therapy designed to offer a convenient one-time infusion compared to regular ERT infusions.

Preliminary clinical data demonstrated robust increases in α-Gal A, with compelling safety and tolerability profile.

#### Since WORLD 2022:

Total of 9 patients now dosed across four dose Cohorts.

Two patients successfully withdrawn from ERT. No indication to date that resumption of ERT is required.

Updated data expected in 2H 2022.

# Fabry disease: ST-920 Safety and Tolerability

STAAR data, WORLD, February 8, 2022 (Abstract #LB-20). Cut-off Nov 9, 2021.

MedDRA Preferred Term	(0 <b>.</b> 5e1)	ort 1 3 vg/kg) =2)	Cohort 2 (1.0e13 vg/kg) (n=2)		Cohort 3 (3.0e13 vg/kg) (n=1)		Overall (N=5)	
	n	Events	n	Events	n	Events	n	Events
Treatment-related adverse events (total)	1	3	1	2	1	6	3	11
Hemoglobin decreased	1	1	0	0	0	0	1	1
Platelet count increased	1	1	0	0	0	0	1	1
Rash	1	1	0	0	0	0	1	1
Pyrexia	0	0	1	2	1	1	2	3
Headache	0	0	0	0	1	1	1	1
Myalgia	0	0	0	0	1	1	1	1
Fatigue	0	0	0	0	1	1	1	1
Abdominal pain	0	0	0	0	1	1	1	1
Frequent bowel movements	0	0	0	0	1	1	1	1

Isaralgagene civaparvovec (ST-920) was generally well tolerated as of the cut-off date

No liver enzyme elevations requiring steroid treatment

No treatment-related serious adverse events were reported

All treatment-related adverse events were Grade I (mild)

As of the cut-off date of November 9, 2021, safety data were evaluated from the 5 subjects in dose cohorts 1-3 (0.5e13 vg/kg, 1.0e13 vg/kg, and 3.0e13 vg/kg); length of follow-up ranged from 3-52 weeks (Subjects 1 and 2, 52 weeks; Subject 3, 40 weeks; Subject 4, 25 weeks; Subject 5, 3 weeks). MedDRA, Medical Dictionary for Regulatory Activities; vg/kg, vector genomes per kilogram of body weight.



# Fabry disease: STAAR Study Baseline Subject Characteristics

		1 (n=2) 3 vg/kg	Cohort 2 (n=2) 1.0e13 vg/kg		Cohort 3 (n=3) 3.0e13 vg/kg			Cohort 4 (n=2) 5.0e13 vg/kg	
	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Subject 7	Subject 8	Subject 9
Age (years)	48	25	42	22	39	42	51	49	40
On ERT	Yes	No; pseudo- naïve	No; pseudo- naïve	Yes	Yes	Yes	Yes	No (Naive)	No (Naive)
Primary disease signs and symptoms	<ul> <li>Hypohidrosis</li> <li>Tinnitus and vertigo</li> <li>Left ventricular hypertrophy</li> <li>Palpitations</li> <li>Anemia</li> <li>Leg edema</li> </ul>	<ul> <li>Anhidrosis</li> <li>Tinnitus</li> <li>Acropares- thesia†</li> <li>Sinus bradycardia</li> <li>Left ventricular hypertrophy</li> </ul>	<ul> <li>Hypohidrosis</li> <li>Tinnitus and vertigo</li> <li>Acropares- thesia†</li> <li>ECG sinus arrhythmia</li> </ul>	<ul> <li>Hypohidrosis</li> <li>Neuropathic pain</li> <li>Aortic root dilation</li> </ul>	<ul> <li>Tinnitus</li> <li>High frequency hearing loss</li> <li>Acropares- thesia</li> <li>Sinus bradycardia</li> </ul>	<ul> <li>Hypohidrosis</li> <li>Tinnitus</li> <li>Neuropathic pain</li> <li>Acropares-thesia</li> </ul>	<ul> <li>Depression</li> <li>Ventricular tachycardia</li> <li>Hearing loss</li> <li>Neuropathic pain</li> </ul>	<ul> <li>Tinnitus</li> <li>Mild ventricular hypertrophy</li> <li>Acropares- thesia</li> </ul>	• Mild ventricular wall thickness
Mutation	G621D	C422T	W340R	S297Y	Q283X	D215S	IVS5/ c.801+3A>G	P362L	T141I



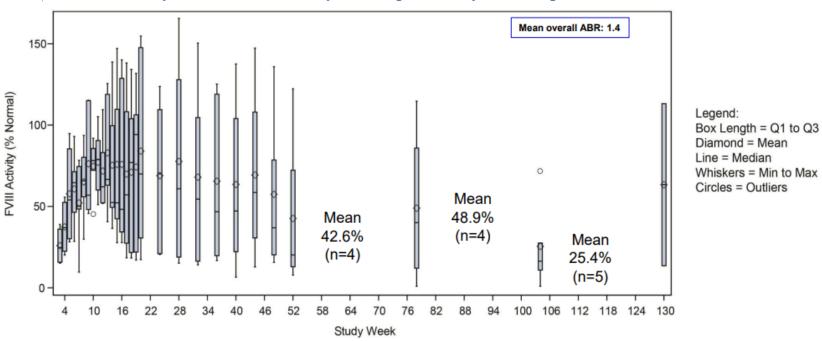
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# Hemophilia A (giroctocogene fitelparvovec)



# Hemophilia A: Efficacy Data (Highest Dose Cohort)

Phase 1/2 ALTA data presented at ASH on December 12, 2021 (Abstract #564)



Factor VIII Activity Levels as Measured by Chromogenic Assay for the Highest Dose Cohort

- 0 bleeding events occurred in the first year post-infusion
- Mean overall ABR = 1.4 (n=5 participants with ≥2 years of follow-up)

#### As of the October 1, 2021, cutoff date:

At 104 weeks, the 5 patients in the highest dose 3e13 vg/kg cohort had mean factor VIII (FVIII) activity of 25.4% via chromogenic clotting assay

In this cohort, mean annualized bleeding rate (ABR) was 0.0 in the first year post-infusion and was 1.4 throughout the total duration of follow-up

All bleeding events occurred after week 69 postinfusion. 2 patients experienced bleeding events necessitating treatment with exogenous FVIII

No participants in the highest dose cohort have resumed FVIII prophylaxis



## Hemophilia A: Safety Data

Phase 1/2 ALTA data presented at ASH on December 12, 2021 (Abstract #564)

As of the October 1, 2021, cutoff date:

Among the 5 patients in the highest dose cohort, 4 received corticosteroids for liver enzyme (ALT/AST) elevations. All elevations fully resolved with oral corticosteroids

As previously reported, I patient in the highest dose cohort had a treatment-related serious adverse event (AE) of hypotension (grade 3) and fever (grade 2), with symptoms of headache and tachycardia, which occurred 6 hours post-infusion with giroctocogene fitelparvovec and resolved ~12 hours post-infusion

No other treatment-related serious AEs were reported as of the cutoff date

Giroctocogene fitelparvovec was generally well tolerated

> No confirmed FVIII inhibitor development

> > No thrombotic events reported



# Phase 3 AFFINE Study in Hemophilia A

#### Program transitioned to Pfizer for phase 3 development

Open label, global, single-arm study of giroctocogene fitelparvovec gene therapy

Primary endpoint is impact on annual bleed rate, or ABR, through 12 months following treatment. This will be compared to Factor VIII replacement therapy collected in the Phase 3 lead-in study, which will provide a baseline for Phase 3 study participants

Participants will be analyzed throughout the 5year study period following the single infusion to further assess safety, durability and efficacy

# AFFINE is more than 50% enrolled

Pfizer has announced that it anticipates resuming dosing in the third quarter of 2022, with a pivotal data read out estimated in 2H 2023.

This trial was previously paused when some patients experienced FVIII expression greater than 150% following treatment. In March 2022, the FDA lifted its clinical hold. The voluntary pause remains in place until all necessary conditions are met to resume dosing of patients in this trial, including approval of updated trial protocols by regulatory authorities.



# Sickle Cell Disease (SAR445136)

## Sickle Cell Disease: SAR445136 Efficacy

PRECIZN-1 data presented at ASH on December 12, 2021 (Abstract #2930)

Preliminary proof-of-concept Phase 1/2 data demonstrate therapeutic potential of SAR445136 in sickle cell disease

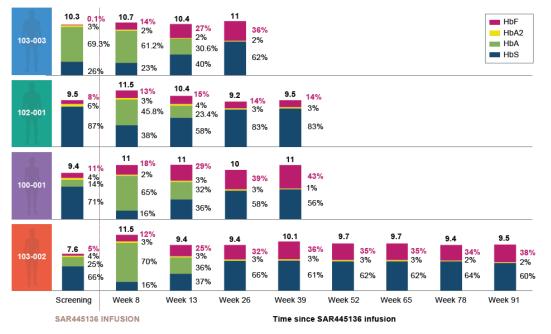
Data from the PRECIZN-1 study presented at ASH 2021. As of the September 22, 2021, cutoff date:

None of the 4 treated patients required blood transfusions post engraftment

All 4 treated patients experienced increases in total hemoglobin (Hb), fetal hemoglobin (HbF) and percent F cells

#### Total Hb and Hb Fractionation in all Patients After SAR445136 Infusion

Figure 3. Total Hb and Hb fractionation in all patients after SAR445136 infusion



#### Total Hb: Stabilized by Week 26 in all 4 patients

# Percent HbF levels increased:

- Screening: 0.1-11%
- Week 26:14-39%
- Week 91: 38% in the longesttreated patient

# Percent F cells increased:

Week 26: Increased to 48-94% in all four infused patients, persisting at 99% in the patient with 91 weeks of follow-up

#### Presented at ASH on December 12, 2021 (Abstract #2930)

18

# Sickle Cell Disease: SAR445136 Safety Data

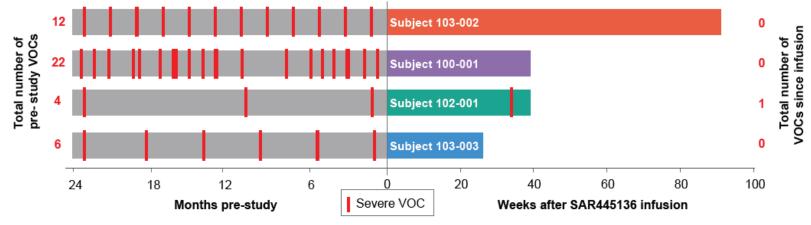
PRECIZN-1 data presented at ASH on December 12, 2021 (Abstract #2930)

#### **Baseline Characteristics and Clinical History**

Subject	103-002	100-001	102-001	103-003
Genotype	HbSB0	HbSS	HbSS	HbSS
Gender	Female	Female	Male	Male
Race	African American	African American	African American	African American
Age at consent, years	35	20	18	25
Pain crises, #events/2 years	10	22	0	6
Disease modifying medications, Y/N	Ν	Y*	Y*	N
Chronic RBC transfusion therapy, Y/N	Ν	Y	Y	Y

\*Hydroxyurea RBC, RED blood cell

#### Number of VOCs Reported Pre- and Post-SAR445136 Infusion



VOC, vaso-occlusive crisis



As of the September 22, 2021 cutoff date:

There were no adverse events (AEs) assessed as related to SAR445136 through 91 weeks of follow-up for the longest treated patient.

One serious AE of sickle cell anemia with crisis (vaso-occlusive crisis or VOC) was reported ~9 months after treatment with SAR445136 in 1 patient

No other SCD-related events were reported in the 4 patients post-infusion

# Second-Generation Programs

Autoimmune & CNS Programs Capitalize on Advancements in Cell Therapy and Zinc Finger Genome Engineering Platform

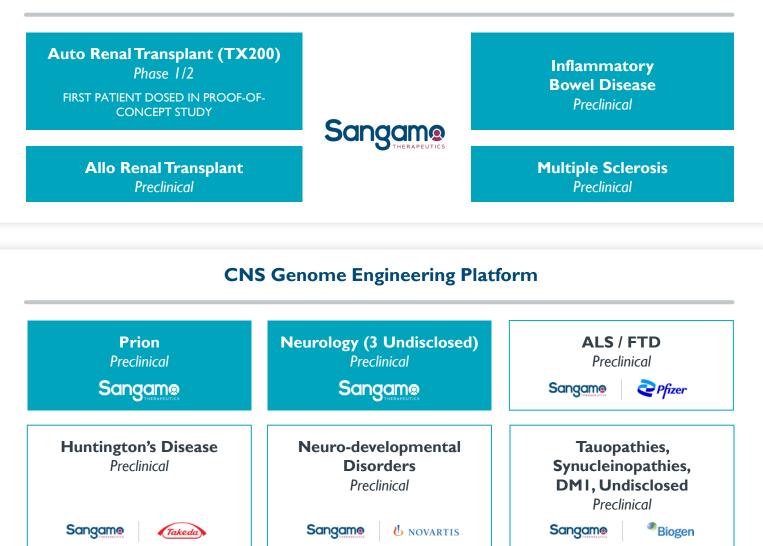


## Sangamo's Second-Generation Programs

Trailblazer CAR- $T_{REG}$  program leverages expertise in *ex vivo* cellular engineering, manufacturing, and  $T_{REG}$  biology to establish a leading position in  $T_{REG}$  development

CNS portfolio leverages knowledge of zinc finger genome engineering and domain expertise of partners to assemble a strong pipeline of CNS-targeted clinical candidates

#### **CAR-T<sub>REG</sub>** Cell Therapy Platform



WHOLLY OWNED



# **CAR-T<sub>REG</sub> Cell Therapy in Autoimmunity**

## CAR-T<sub>REG</sub> Cell Therapy in the Clinic: TX200 for Renal Transplantation



Autologous HLA-A2 specific CAR-T<sub>REG</sub> cell therapy

Therapeutic hypothesis and goals:

Promote immunological tolerance to renal graft

Help preserve graft function and reduce graft loss

Reduce need for systemic immunosuppressive therapy

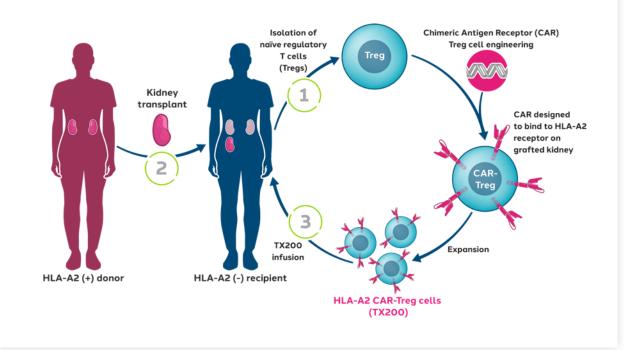
LEARN MORE ABOUT OUR CAR-T<sub>REG</sub> TECHNOLOGY HERE



#### HLA-A2 Mismatched Renal Transplant

~46,000 renal transplantations expected in 2021 (US + EU)<sup>1</sup>

**21-26% of transplanted organs** are estimated to be HLA-A2 mismatched<sup>2</sup>



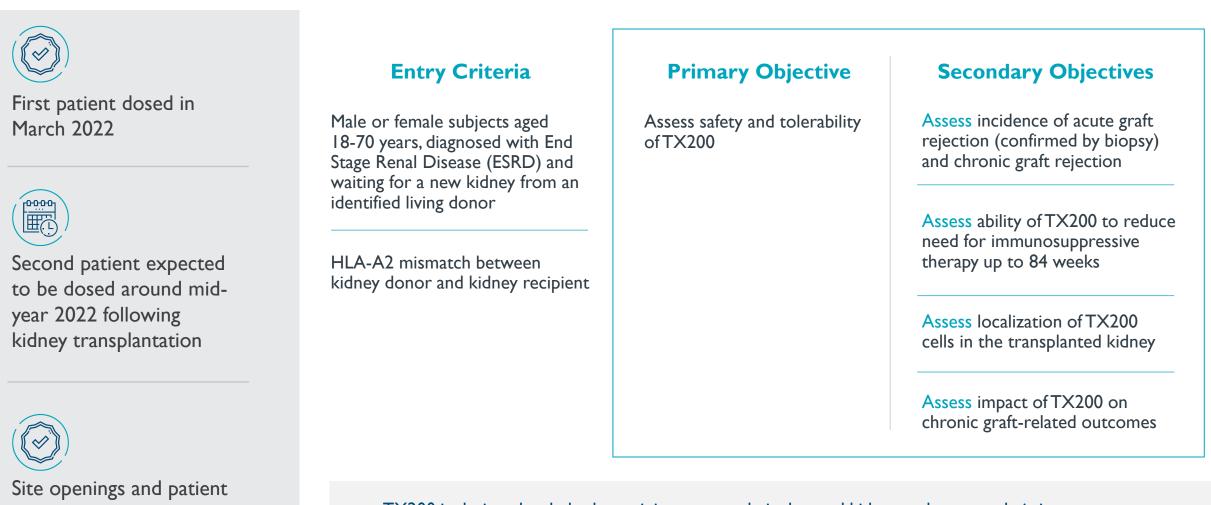
**TX200** administration to take place following transplantation; the time from pre-transplant through **TX200** administration may be several months



2. Barocci et al. 2007; Marrari et al., 2010; Middleton et al., 1985; Schnitzler et al. 1997

# Phase 1/2 Study Evaluating TX200 in Renal Transplantation



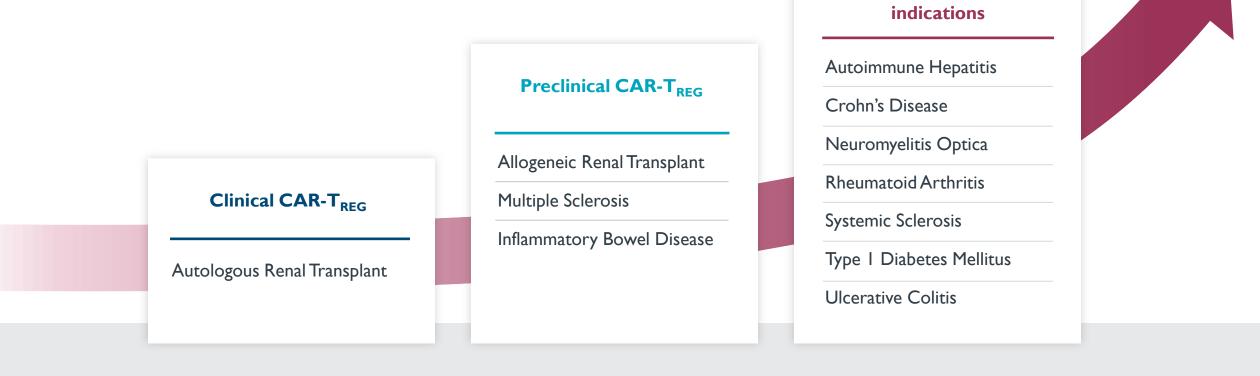


TX200 is designed to help the recipient accept their donated kidney and prevent their immune system from rejecting it, thereby reducing the need for systemic immunosuppressive therapy



screenings ongoing

# Pioneering TX200 Program Establishes Manufacturing and T<sub>REG</sub> Engineering Expertise for Potential Future Expansion into Major Autoimmune Indications



#### Cell Therapy Strategy

#### CURRENT

Seeks to provide potential proof-of-concept for  $CAR-T_{REG}$  cell therapy

Aims to establish key manufacturing & QC processes

#### **FUTURE**

Leverage ZF genome engineering expertise to potentially advance allogeneic and functionallyenhanced CAR-T<sub>REGS</sub>

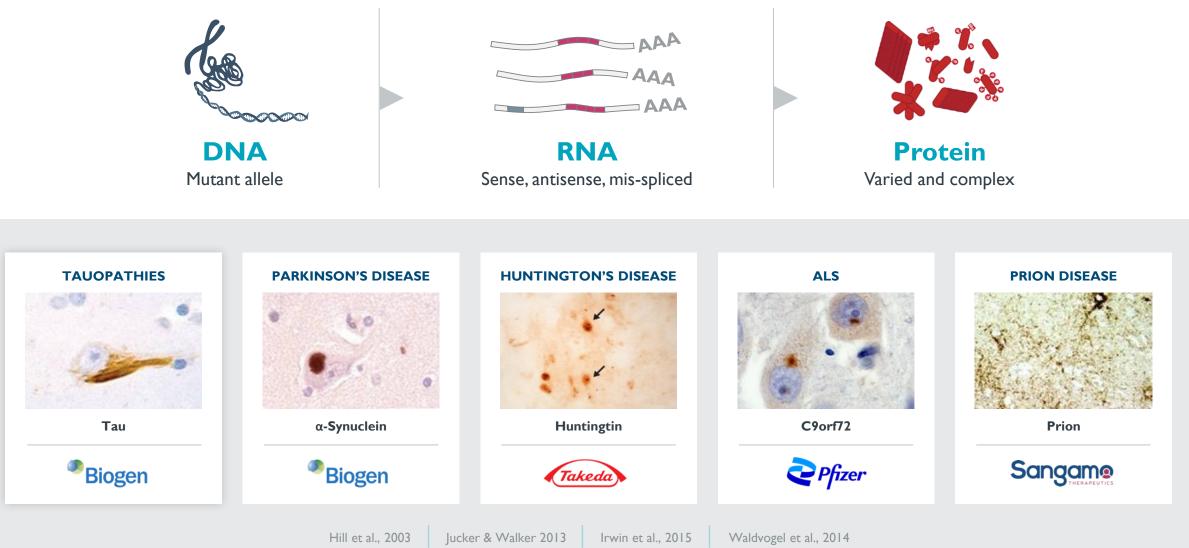
**Potential future** 

Foundation upon which to potentially expand the addressable market



# Zinc Finger Genomic Engineering in CNS

ZFP-TFs Target Upstream at the Source of Mutant Protein Isoforms and Complexes Offering Advantages over Today's Symptomatic Approaches

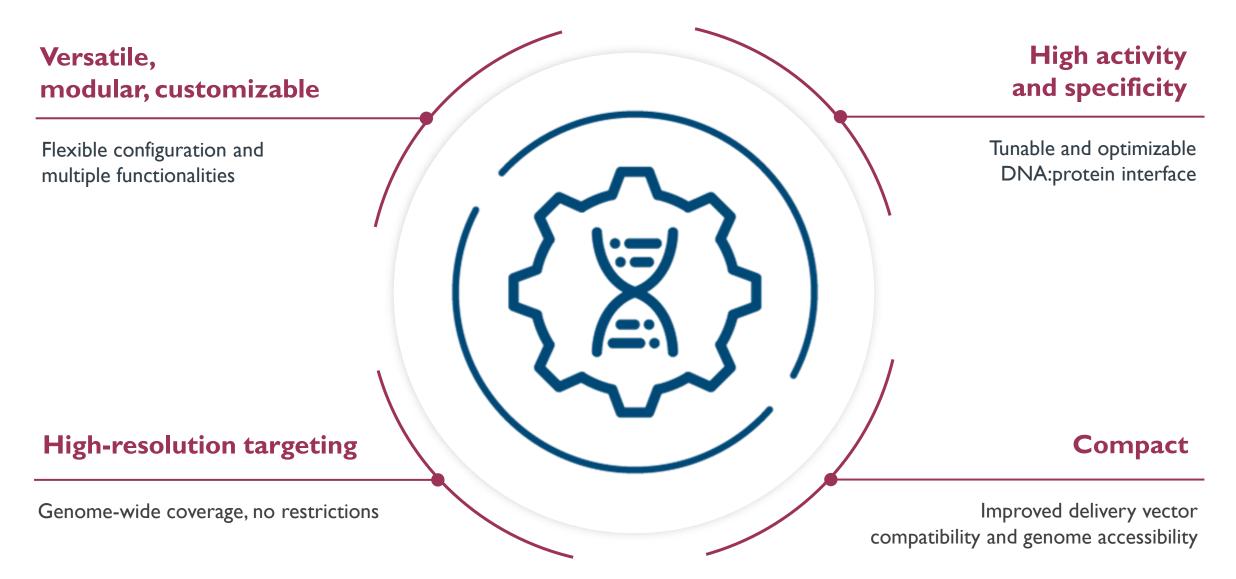




# Sangamo Genomic Medicine Platform

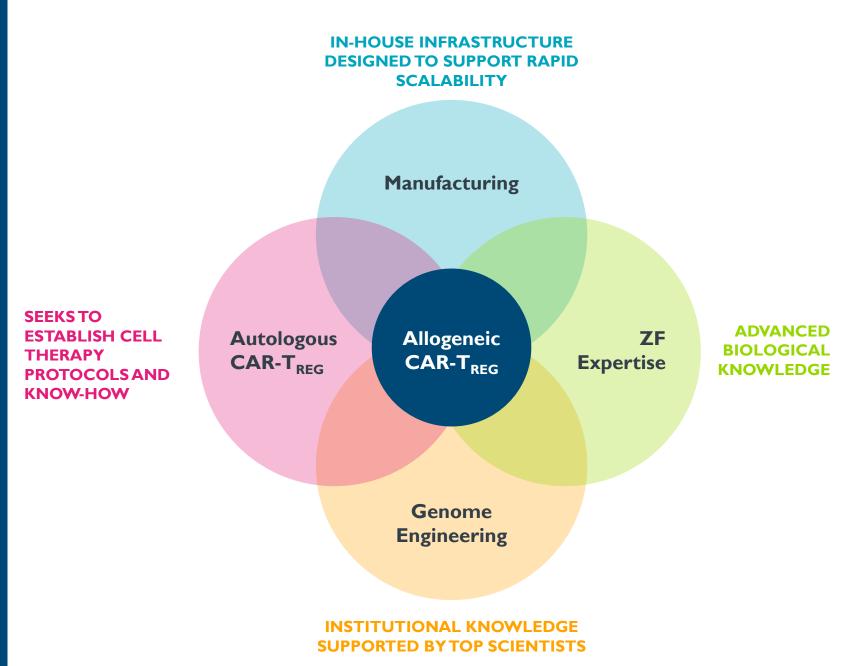


# Sangamo's Differentiated ZF Genomic Engineering Platform





Synergies among Multiple Technology Platforms Support a Potentially Leading Foundation for Allogeneic CAR-T<sub>REG</sub>

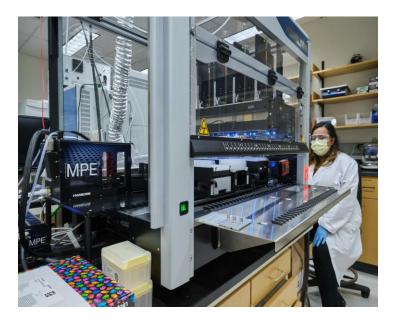




#### In-House Cell Therapy and AAV Manufacturing GMP Facilities & Deep Manufacturing Expertise Provide the Infrastructure to Execute on Our Clinical Strategy







AAV and Cell Therapy manufacturing capabilities in-house

Opened new state-of-the-art GMP facilities in 2021 Dedicated access to AAV capacity up to 2000-L bioreactor scale with CDMO partners provides flexibility in manufacturing scale

In-house capabilities in US and France, and line of sight across manufacturing operations from procurement to release enables greater control over quality, supply, cost, timeline and IP.



## Key Highlights of Sangamo's Manufacturing Capabilities



#### **Flexibility and control**

High degree of quality control for vector and cell therapy applications



**Capacity to support R&D needs** Balanced infrastructure designed to support achievement of critical milestones



**Process expertise** Supported by highly experienced technical operations team



**Geographic diversification** US and EU sites provide supply chain resiliency



**Deep intellectual property portfolio** Proprietary archive of ZFP modules, ~200 patent families, and trade secrets / know-how



## **Our ESG Commitment**

Sangamo strives to mitigate the environmental impact of our operations, promote diversity and inclusion in our workforce and govern our company responsibly and transparently

Environment	Social	Governance
Sangamo's headquarters in Brisbane is LEED certified, meaning it meets the requirements	Diversity, Equity and Inclusion (DEI) working group continues to advance internal initiatives	Majority independent Board oversees risk and strategy
of a green building set by the U.S. Green Building Council	Instituted DEI metrics to better track diversity initiatives and results	Separate Chair and CEO Three new independent directors
	Focus on DEI in recruitment and retention	added in the last two years Board is 33% female and 22% from underrepresented communities



# Platform Validating Partnerships



Multiple Biopharma Collaborations Validate the Platform's Capabilities and Provide Significant Economics for Sangamo



Numerous Benefits of Partnerships:

Large Pharma buy-in validates second-gen mechanistic approach

Provides non-dilutive capital to advance pipeline

Leverages partner domain expertise

Promotes optimal resource allocation to advance late-stage clinical development



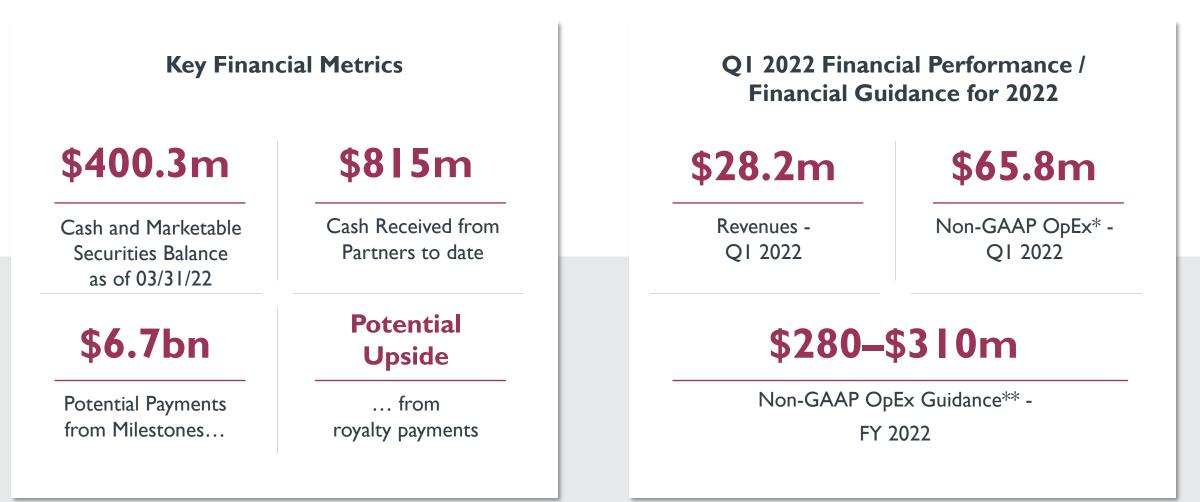
# Upcoming Milestones and Financial Overview



# Looking Ahead to Expected Continued Momentum

	Fabry Disease	<ul> <li>Updated Ph 1/2 data in 2H 2022</li> <li>Phase 1/2 expansion cohorts</li> <li>Ph 3 planning</li> </ul>
Sangamo	Renal Transplant (TX200)	<ul> <li>Patient 2 dosing around mid-2022, based on their transplant schedule</li> <li>Completion of Cohort 1 by end of 2022</li> </ul>
THERAPEUTICS	Sickle Cell Disease	<ul> <li>Complete dosing of Ph 1/2 study in Q3 2022</li> <li>Ph 1/2 follow-up data in 2H 2022</li> <li>Transition program to SGMO through 1H 2022</li> </ul>
	Hemophilia A	<ul> <li>Pfizer anticipates resuming dosing in Q3 2022</li> <li>Pivotal data readout estimated 2H 2023</li> </ul>

### Strong Financial Position Supports Progression of Pipeline Towards Value Inflection Points



\* GAAP total operating expenses were \$73.5 million for Q1 2022, compared to \$72.6 million for Q1 2021 and included stock-based compensation expense ("SBC") of \$7.7 million and \$7.5 million, respectively. \*\* On a GAAP basis we expect our 2022 operating expenses to be in the range of \$320 - \$350 million including anticipated SBC of approximately \$40 million.



## Value Thesis

First-generation product candidates Fabry, Sickle Cell and HemA **in or advancing into late-stage clinical development;** provide insights for second-generation programs

01

Innovative second-generation candidates applying **differentiated genomic medicine capabilities** in cell therapy and genome engineering, with a focus in autoimmunity and CNS

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**Expansive R&D discovery engine** supported by long history of innovation

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