

Corporate Presentation

June 2020





Forward-Looking Statements

This presentation contains forward-looking statements regarding Sangamo's current expectations. These forward-looking statements include, without limitation, statements relating to the potential to develop, obtain regulatory approvals for and commercialize 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, CAR-Treg, iPSC, ESC and other technologies to develop safe and effective therapies, the potential for Sangamo to benefit and earn milestone and royalty payments from its collaborations with Biogen and its other partners and the timing of such benefits and payments, Sangamo's financial resources and expectations, the evolving COVID-19 pandemic and the impact of the pandemic on Sangamo's business and operations, plans and timelines for manufacturing product candidates and opening manufacturing facilities, plans and timelines for Sangamo and our collaborators to conduct clinical trials and share clinical data, Sangamo's 2020 financial guidance related to GAAP and non-GAAP total operating expenses and stock-based compensation 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. Sangamo's 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 evolving COVID-19 pandemic and its impact on the global business environment, healthcare systems and Sangamo's business and operations; 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 and efficacy of product candidates; 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 Sangamo; the potential for collaborators to breach or terminate collaboration agreements; the potential for Sangamo to fail to realize its expected benefits of its collaborations; and the uncertainty of Sangamo's future capital requirements, financial performance and results. There can be no assurance that Sangamo and its collaborators will be able to develop commercially viable products. These risks and uncertainties are described more fully in Sangamo's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020 and Annual Report on Form 10-K. Forward-looking statements contained in this presentation speak only as of the date hereof, and Sangamo undertakes 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.

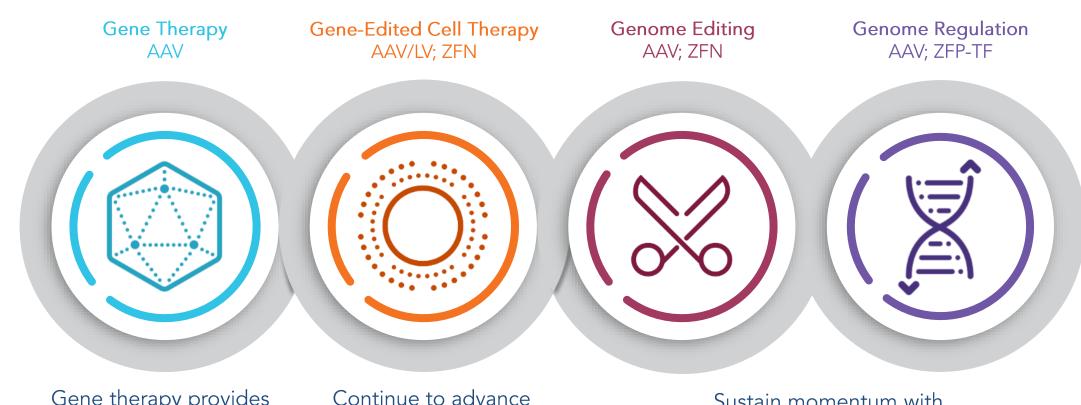
To supplement Sangamo's financial results and guidance presented in accordance with GAAP, Sangamo presents non-GAAP total operating expenses, which exclude stockbased compensation expense from GAAP total operating expenses. Sangamo believes that this non-GAAP financial measure, when considered together with its financial information prepared in accordance with GAAP, can enhance investors' and analysts' ability to meaningfully compare Sangamo's results from period to period and to its forwardlooking guidance, and to identify operating trends in Sangamo's business. Sangamo has 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. Sangamo encourages investors to carefully consider its results under GAAP, as well as its supplemental non-GAAP financial information, to more fully understand Sangamo's business.





We are committed to translating ground-breaking science into genomic medicines that transform patients' lives

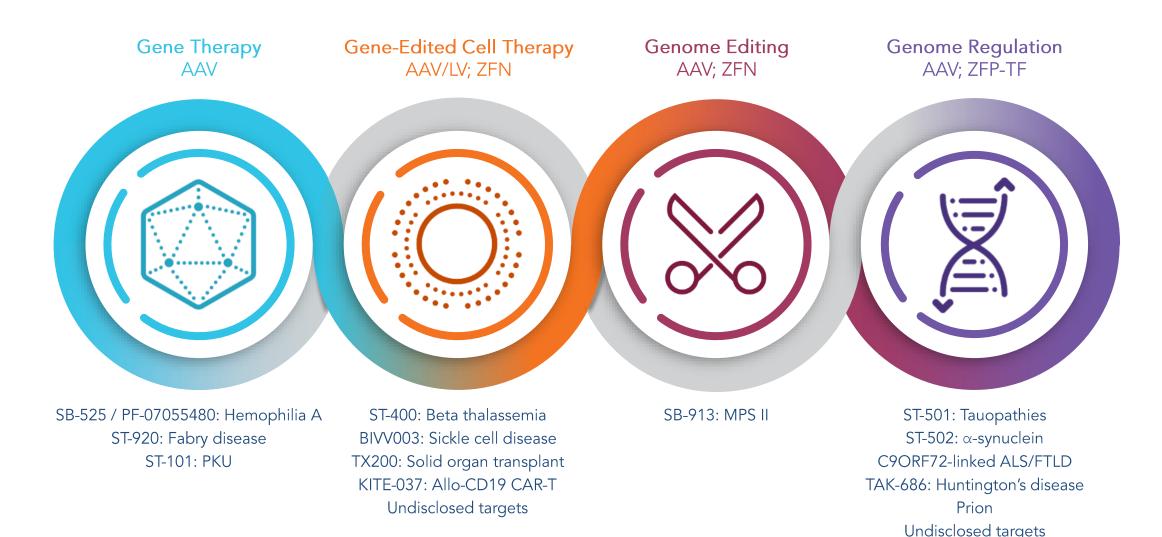
Our proprietary suite of genomic medicine technologies



Gene therapy provides tractable, valuable near-term opportunities Continue to advance *ex vivo* editing to create cell therapies Sustain momentum with *in vivo* genome editing and genome regulation



Our capabilities allow us to design therapeutic approaches targeting the underlying genetic causes of disease





Robust pipeline of genomic medicines



Genome Editing

Genome Regulation 6



Clinical programs updates and COVID-19 impact



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- Pfizer continuing to target first dosing in registrational Phase 3 trial in 2H 2020
- Next clinical data update from Phase 1/2 ٠ ALTA study to be presented when all patients have been followed for at least one year



Sanofi continues to screen and enroll • patients in Phase 1/2 PRECIZN-1 study



COVID-19 may impact timing of clinical ٠ trial initiation planned for 2020



Sangame

- Several patients successfully screened and enrolled in the Phase 1/2 STAAR study, and screening and enrollment continues
- First patient dosing pending due to COVID-19 •



- \bigcirc Beta Thalassemia (ST-400) PARTNER SANOFI
- Patient follow-up continues in Phase 1/2 • THALES study



Phase 1/2 STEADFAST study first ٠ patient dosing expected to occur in 2021

Increasing productivity and realizing value through biopharmaceutical partnerships

Target/ therapeutic area	Neurological including AD, PD	Oncology anti-CD19 CAR-T	C90RF72 ALS	Pfizer Hemophilia A	SANOFI 5 Beta thalassemia, Sickle Cell disease	Takeda Huntington's disease
Development phase	Preclinical	Preclinical	Preclinical	Phase 3	Phase 1/2	Preclinical
Technology	Genome regulation	Cell therapy	Genome regulation	Gene therapy	Cell therapy	Genome regulatior
Royalties (% on net sales)	High-single to sub- teen double-digit	Single-digit	Mid- to high-single digit	Low teens to 20	Double-digit	Single-digit
Upfront & equity	\$125M payment + \$225M in equity purchase	\$150M payment + \$50M in equity purchase	\$12M	\$70M	\$20M	\$13M
Milestones	Up to \$2.37B (\$925M pre- commercial, and \$1.445B for 1 st sale and sales thresholds)	Up to \$3.1B (\$1.3B through 1st sale, and \$1.8B sales thresholds)	Up to \$150M preclinical and commercial	Up to \$475M (\$300M for SB-525 and \$175M other)	Up to \$276M for both programs	-

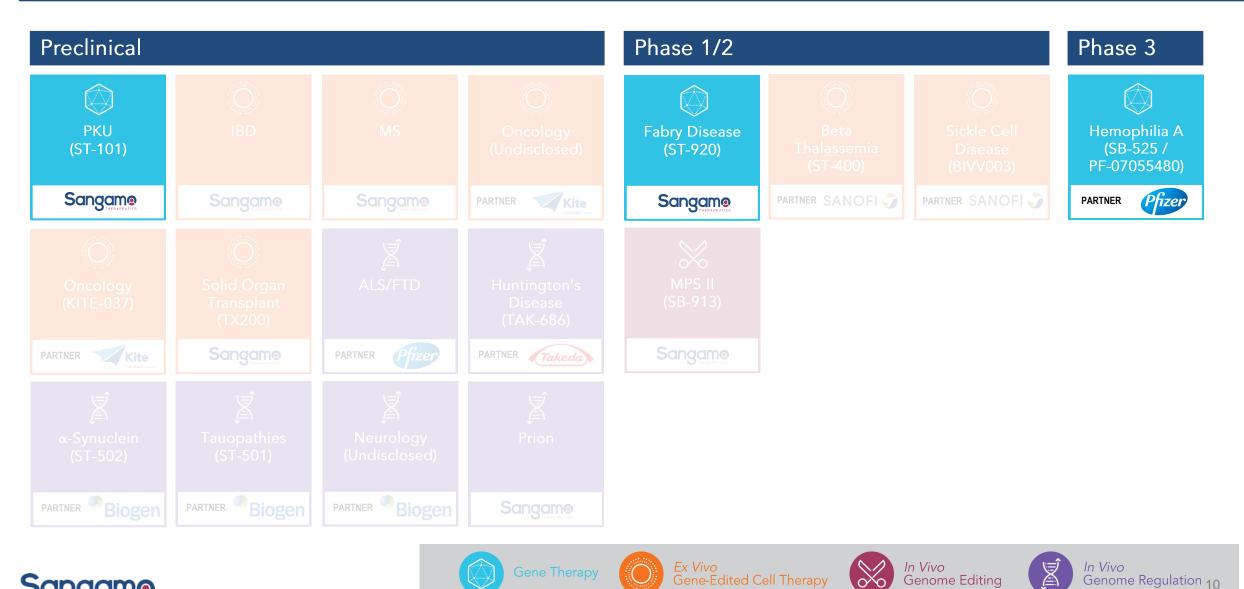


Cash received through license fees, milestones, and equity: ~\$700 million Future opportunity: Royalties on net product sales, as well as \$6.34 billion in potential milestone payments

Clinical and preclinical pipeline

Gene Therapy Cell Therapy Genome Editing

Gene therapy in 2020: Building on hemophilia A data



Genome Editing

Genome Regulation 10



Updated Follow-up of the High-Dose Cohort in the Alta Study, a Phase 1/2 Study of giroctocogene fitelparvovec (SB-525) Gene Therapy in Adults With Severe Hemophilia A

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¹University of Miami Miller School of Medicine, Miami, FL, USA; ²Bloodworks Northwest and the University of Washington, Seattle, WA, USA; ³UAMS at Arkansas Children's Hospital, Little Rock, AR, USA; ⁴University of South Florida, Tampa, FL, USA; ⁵University of California, San Francisco, CA; ⁶University of California Davis, Sacramento, CA, USA; ⁷Pfizer Inc, Cambridge, MA, USA; ⁸Pfizer Inc, New York, NY, USA; ⁹Sangamo Therapeutics, Brisbane, CA, USA; ¹⁰Pfizer Inc, Collegeville, PA, USA

Presented at the World Federation of Hemophilia (WFH) Virtual Summit, June 14–19, 2020

Safety Summary: Treatment-Related Adverse Events

MedDRA Preferred Term	Coho 3e13 (Na	vg/kg
	Subjects, n (%)	No. of Events
Any treatment-related event	5 (100.0)	42
Alanine aminotransferase increased*	3 (60.0)	9
Pyrexia	4 (80.0)	4
Aspartate aminotransferase increased	1 (20.0)	2
Tachycardia	2 (40.0)	2
Fatigue	1 (20.0)	1
Hypotension	1 (20.0)	1
Myalgia	1 (20.0)	1

*Subject 113001 had an ALT increase as per central lab results, but Investigator has not reported increase as an Adverse Event





ALT Elevations: Cohort 4 (3x10¹³ vg/kg)

• 4 of 5 subjects in cohort 4 had an ALT elevation

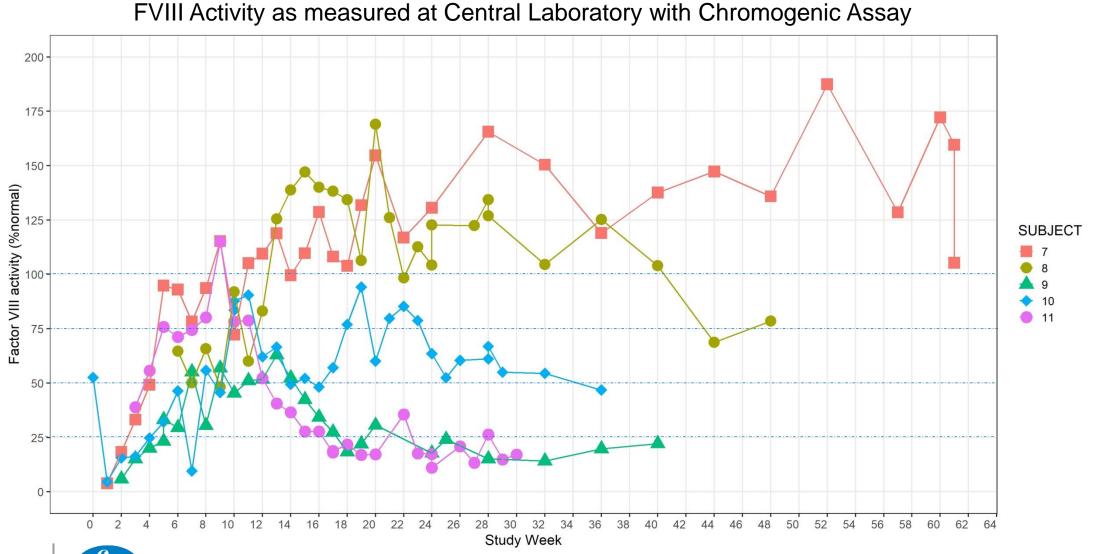
Subject ID Number	Time of First ALT Elevation (Week)	Maximum ALT Value, U/L (Grade)	Steroids, >60mg (Weeks)	Steroids, Taper (Weeks)	FVIII levels (Chromo, IU/dL) at Start of Steroids	FVIII Levels (Chromo, IU/dI) at End of Taper	Time of Second ALT Elevation (Week)	Weeks of Steroids After Second Elevation
7	4.5	91 (gr 1)	3	11	94.8	108.2	48#	16#
8	12	66 (gr 1)	1	16	83.1	112.6	N/A	N/A
10	5.5	63 (gr 1)	N/A*	6	46.4	57.1	20	9
11	8	192 (gr 2)	1.5	4	80.2	27.7	16	18

*: Patient started at 60mg.

#: Patient had an additional isolated elevation of ALT at week 28 that was treated with corticosteroids for 1 week and discontinued. Treatment was ongoing at the time of data cut.



Efficacy: Cohort 4 (3x10¹³ vg/kg)





giroctocogene fitelparvovec (SB-525 / PF-07055480) program transitioned to Pfizer for Phase 3 development

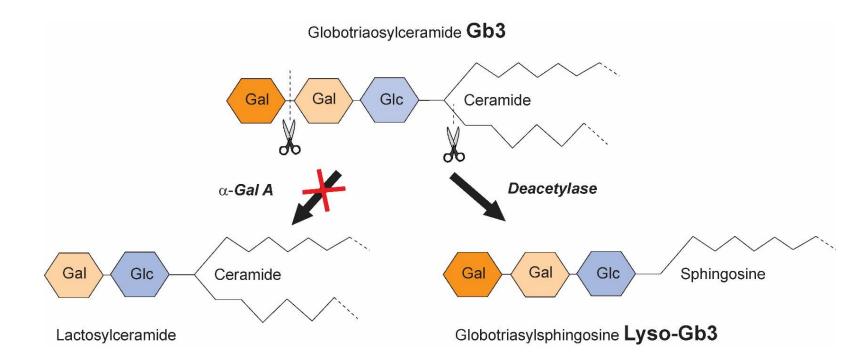
- Pfizer continues to target dosing of the first patient in the pivotal Phase 3 in 2H 2020
 - Objective: To evaluate the clinical efficacy and safety of a single IV infusion of PF-07055480 in eligible patients who have completed at least 6 months in prior lead-in study
- Enrollment in Pfizer's Phase 3 lead-in study commenced in October and is ongoing
 - Objective: To establish ≥ 6 months of prospective efficacy data of current FVIII prophylaxis replacement therapy in the usual care setting of hemophilia A subjects, who are negative for nAb to SB-525 capsid (AAV6), prior to the Phase 3 gene therapy study







Fabry disease: A lysosomal storage disorder

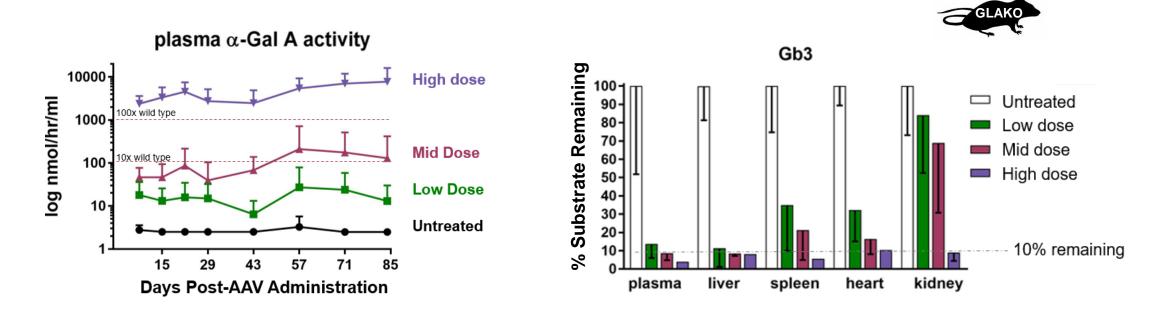


- Fabry disease is an Xlinked monogenic disease caused by mutations in GLA gene encoding the enzyme alphagalactosidase A (α-Gal A)
- α-Gal A plays a role in degradation of glycolipids in the lysosome
- The lack of functioning enzyme results in the accumulation of **Gb3** and its soluble form **lyso-Gb3**.



ST-920 promising preclinical data

- ✓ US FDA and EMA orphan drug designation granted; UK approval granted for CTA
- ✓ AAV produced using clinical scale manufacturing methods



Sangamo's gene therapy demonstrated strong expression of α-Gal A and Gb3 substrate reduction across tissue types in GLAKO murine model





Primary Objective

 Assess safety & tolerability of ST-920

Secondary Objectives

- Assess the pharmacodynamics of α-Gal A and the presence of its substrates in plasma over time
- Assess impact of ST-920 on ERT administration required for subjects on ERT
- Assess impact of ST-920 on renal function
- Evaluate AAV2/6 vector DNA shedding over time

Target Population

- Male subjects ≥ 18 years of age with classic Fabry disease
- On ERT regimen; or ERT-naïve; or ERT-pseudo-naïve and has not received ERT treatment in the prior 6 months

The goal is to abrogate the need for ERT with a recombinant AAV2/6 vector encoding cDNA for human α -Gal A, resulting in long-term expression of α -Gal A



ST-920 offers a potentially differentiated treatment for Fabry



- In a single IV infusion, ST-920 may provide continuous, potentially life-long expression of endogenously expressed α-Gal A
- No preconditioning regimen
- Potential to deliver efficacy with preserved renal function and reduced cardiac morbidity
- FDA draft guidance may considerably shorten time to approval and allow ST-920 to be among the first Fabry disease gene therapies on the market



Ex vivo gene-edited cell therapy in 2020



Genome Editing

Genome Regulation 20





Presented at the 2019 American Society of Hematology Annual Meeting; Orlando, Florida; December 9, 2019

Preliminary Results of a Phase 1/2 Clinical Study of Zinc Finger Nuclease-Mediated Editing of *BCL11A* in Autologous Hematopoietic Stem Cells for Transfusion-Dependent β-Thalassemia

Angela R. Smith, MD, MS¹; Gary J. Schiller, MD²; Gregory M Vercellotti, MD³; Janet L. Kwiatkowski, MD, MSCE⁴; Lakshmanan Krishnamurti, MD⁵; Erica B. Esrick, MD⁶; David A. Williams, MD⁷; Weston P. Miller, MD⁸; Adrian Woolfson, MD, PhD⁸ and Mark C. Walters, MD⁹

¹Pediatric Blood and Marrow Transplantation, University of Minnesota, Minneapolis, MN; ²Division of Hematology and Oncology, Department of Medicine, David Geffen School of Medicine at University of California Los Angeles, Los Angeles, CA; ³Division of Hematology, Oncology and Transplantation, Department of Medicine, University of Minnesota Medical School, Minneapolis, MN; ⁴The Children's Hospital of Philadelphia, Philadelphia, PA; ⁵Aflac Cancer and Blood Disorders Center, Department of Pediatrics, Children's Healthcare of Atlanta, Emory University, Atlanta, GA; ⁶Dana-Farber/Boston Children's Cancer and Blood Disorders Center, Harvard Medical School, Boston, MA; ⁷Boston Children's Hospital, Harvard Medical School, Boston, MA; ⁸Sangamo Therapeutics, Brisbane, CA; ⁹USCF Benioff Children's Hospital Oakland, Oakland, CA Hemoglobinopathies collaboration with Sanofi: BIVV003 for Sickle Cell Disease and ST-400 for Beta Thalassemia

- Sanofi continuing to screen/enroll subjects into the PRECIZN-1 clinical trial evaluating BIVV003 for sickle cell disease
- Five subjects dosed in Sangamo's Thales study evaluating ST-400 for transfusion dependent beta thalassemia
 - No additional beta thalassemia subjects to be treated until data from PRECIZN-1 and Thales have been collected and analyzed
- Sangamo and Sanofi will look to present BIVV003 and ST-400 data once sufficient number of patients have been enrolled and follow-up has accumulated

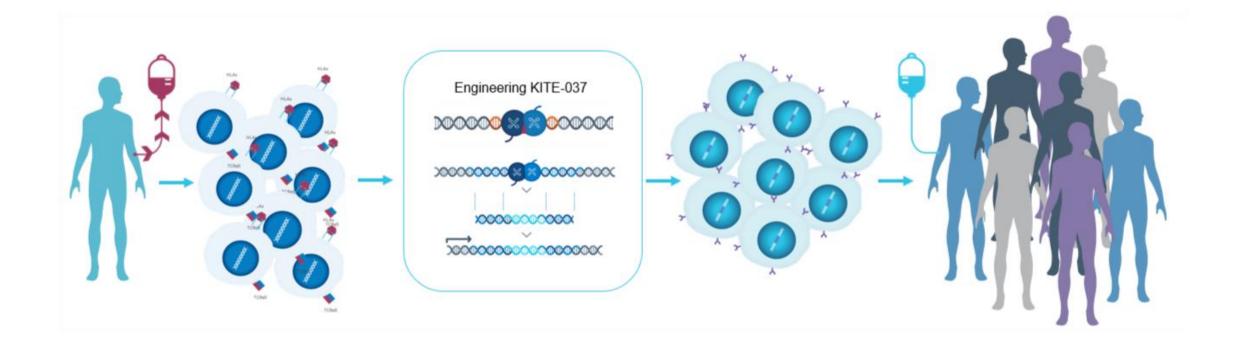








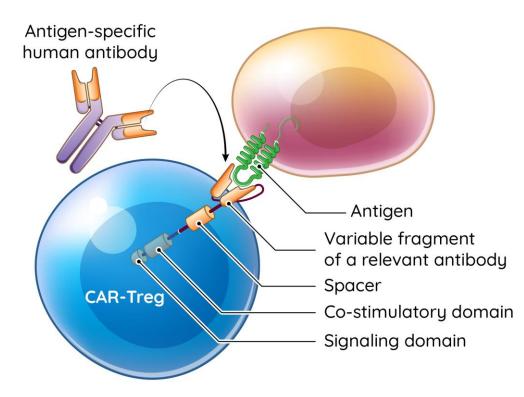
KITE-037, the first product candidate of the collaboration with Kite, a Gilead Company



- First product candidate: KITE-037, an allogeneic anti-CD19 CAR-T
- KITE-037 clinical trial planned for 2020 potentially delayed due to COVID-19



CAR-T_{REGS} may overcome limitations of polyclonal T_{REG} Therapy



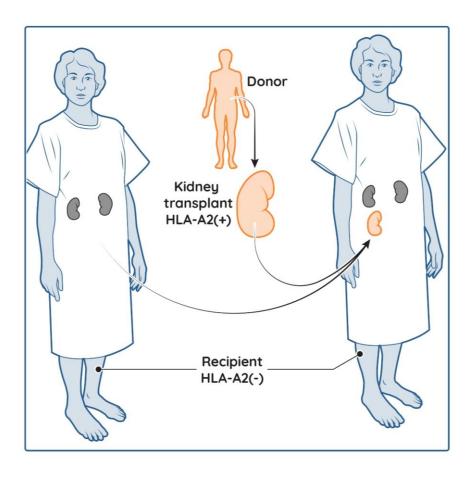
- *Ex vivo* engineered and expanded
- Tissue targeted
- Antigen activated & expanded
- Multiple mechanisms of immune regulation



Sangamo is pioneering this new frontier with TX200 for solid organ transplantation

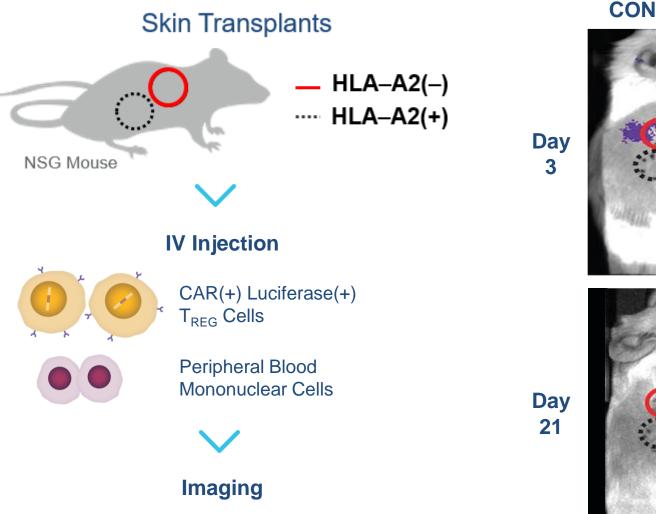
Autologous HLA-A2 specific CAR-T $_{\rm REG}$ cell therapy

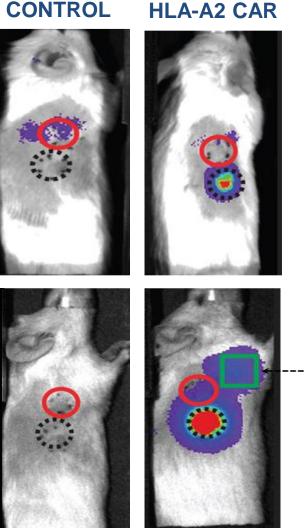
- Initial target indication: Prevention of immune mediated rejection in living donor renal transplantation
 - The STEADFAST Study will evaluate the safety and mechanism of action of TX200 in renal transplant recipients
 - 80,000 renal transplantations per year (US and EU)
 - 20-25% of transplanted organs are HLA-A2 mismatched
- Therapeutic hypothesis and goals
 - Regulate the immune system in a targeted manner
 - Promote immunological tolerance to the renal transplant
 - Help preserve graft function and reduce graft loss





HLA-A2 CAR-T_{REGS} achieve precise and durable targeting





9.0E6 6.0E6 3.0E6 3.0E5 Radiance (p/sec/cm²/sr)

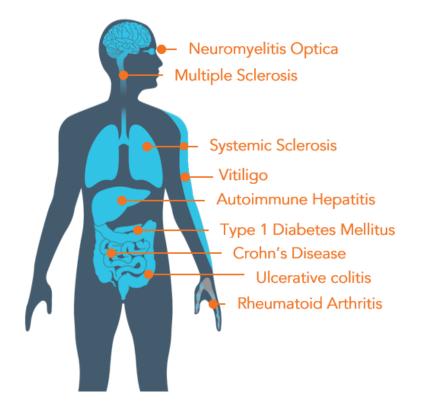
- CAR-T_{REGS} present in draining lymph nodes, educating the immune system to induce tolerization





Key outcomes from TX200 CAR-T_{REG} program

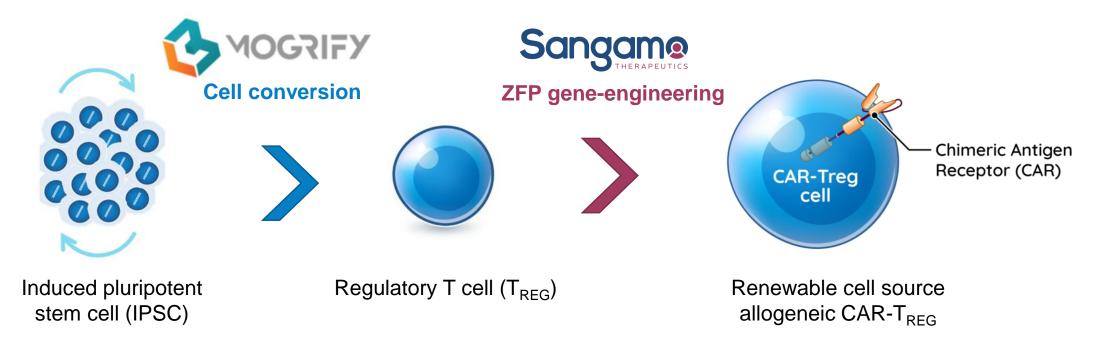
- Data on safety and proof of concept
- Answers critical questions on CAR-T_{REG} pharmacology and biology in patients
- Establishes CAR-T_{REG} cell therapy process development know-how and manufacturing infrastructure
- Gateway to multiple autoimmune indications with large patient populations and high unmet need





Sangamo licenses global rights to Mogrify's cell conversion technology to develop allogeneic cell therapies

Mogrify's technology enables the transformation of any human cell type into any other human cell type



- Collaboration expected to accelerate the development of scalable and accessible CAR-T_{REG} cell therapies for the treatment of inflammatory and autoimmune diseases
- Complements ongoing cell therapy pipeline of CAR-T_{REG} programs



In vivo genome regulation for neurological diseases

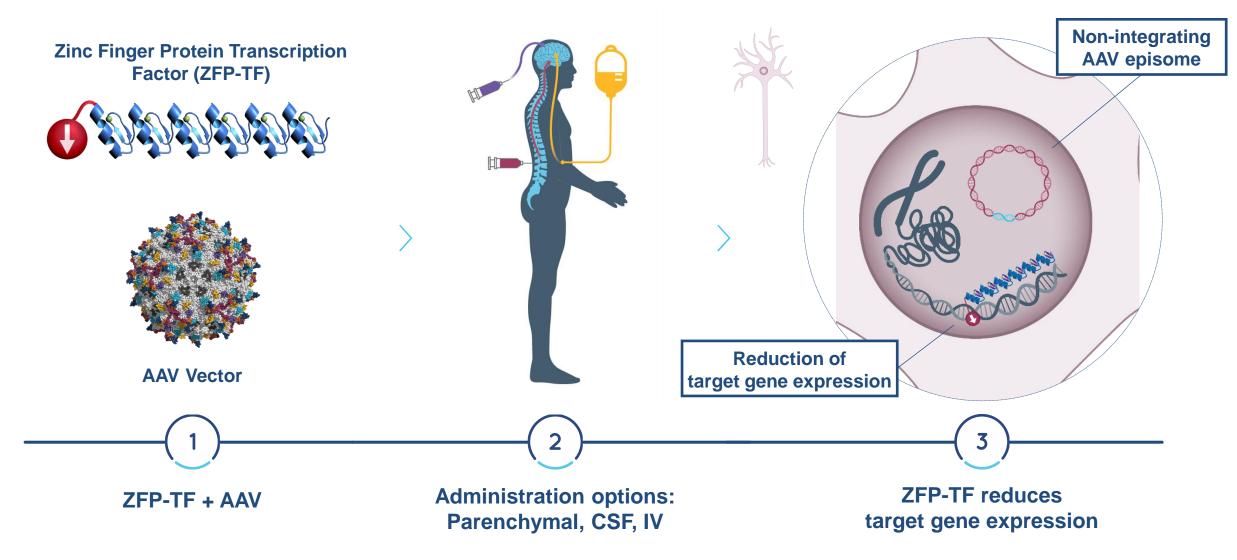


Sangamo ZFP technology: Multiple approaches to access hundreds of genomic targets in CNS



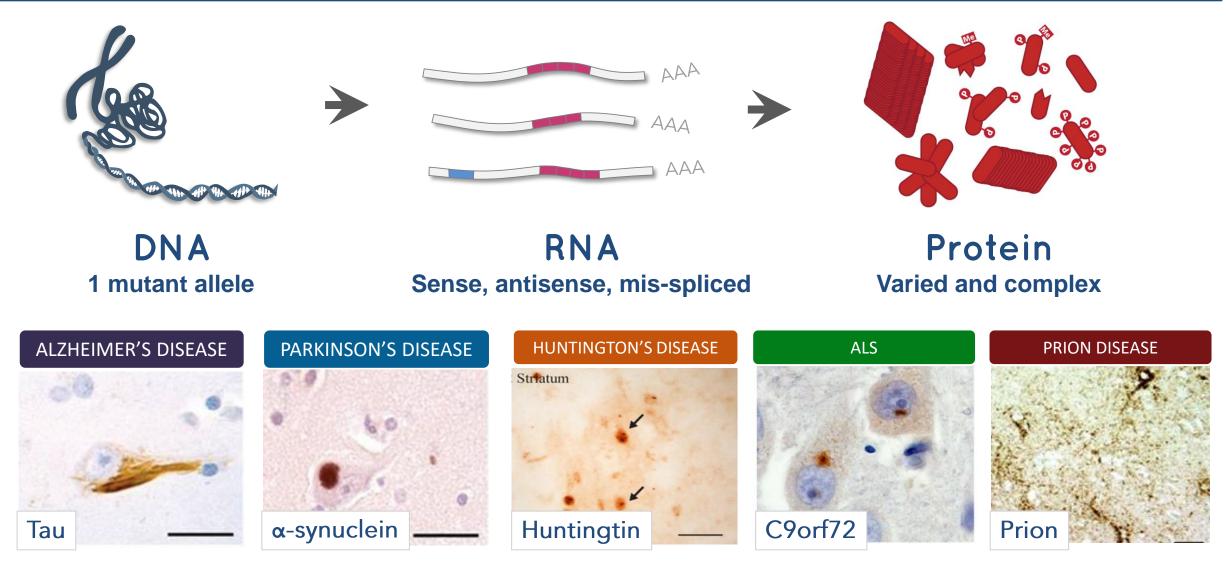
ZFP-TF genome r	egulation	Example targets
Pan-Allele	ZFP-TFs for single gene repression	 Tauopathies α-synuclein Prion
Allele-Selective	ZFPs target disease allele repeats selectively	Huntington's DiseaseC9ORF72-linked ALS
Epigenetic editing	ZFP-Epi to demethylate select sites	 Rett Syndrome Fragile X
ZFN genome edit	ing	Example targets
Inflammation	CAR-T _{REGS} for remyelination and inhibition of neuroinflammation	Multiple SclerosisALS

Zinc finger protein transcription factors (ZFP-TFs)





ZFP-TFs target upstream at the source of mutant protein isoforms and complexes

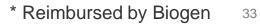




Biogen collaboration for devastating neurological diseases

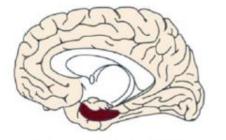
- Exclusive global rights to 3 neurological targets: tau (Alzheimer's), alpha-synuclein (Parkinson's), and one neuromuscular target
- Option for exclusive rights for up to 9 additional targets over 5 years
- Access to Sangamo's zinc finger protein technology (ZFP-TFs and ZFNs) and novel AAV serotypes
- Sangamo to lead early research; Biogen responsible for global development and commercialization
- Sangamo responsible for GMP manufacturing activities for use in initial clinical trial for first 3 products*, leveraging in-house capacity and capabilities; Biogen responsible for subsequent GMP manufacturing activities





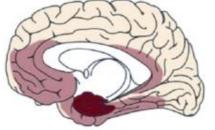
Tau accumulation tracks closely with AD progression

A. Braak stages (post mortem)

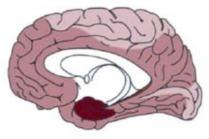


Transentorhinal (I/II)

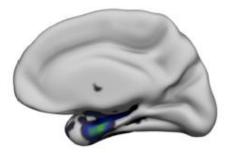
B. Tau tracer uptake (PET)



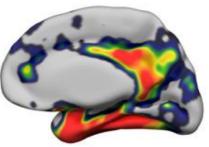
Limbic (III/IV)



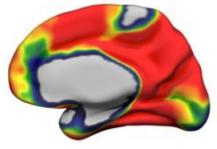
Neocortical (V/VI)



Stage_{I/II} > Stage₀



Stage_{III/IV} > Stage_{I/II}



Stage_{V/VI} > Stage_{III/IV}

Tau pathology is associated with several other diseases, including PSP, FTD, CTE and CBS

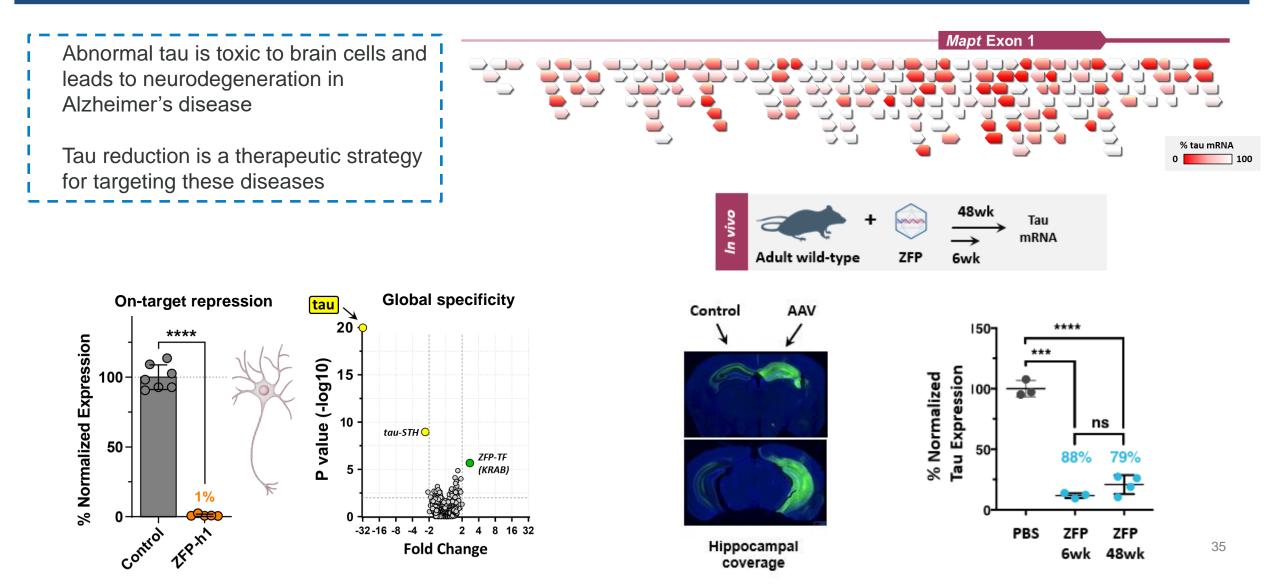


Progressive supranuclear palsy, Frontotemporal dementia, Chronic traumatic encephalopathy, Corticobasal syndrome Figure: Schöll et al., 2018. Mol Cell Neurosci

Potent, long-lasting, specific repression of tau by ZFP-TFs

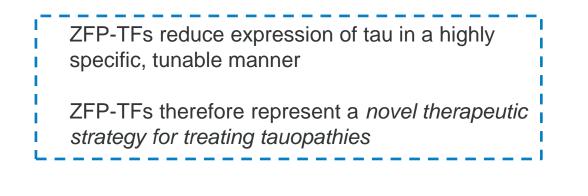
Pan-Allele

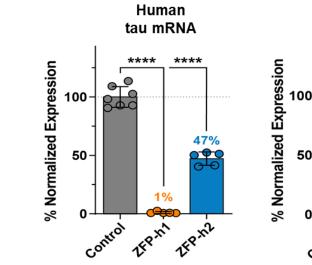
ST-501 - ALZHEIMER'S DISEASE AND OTHER TAUOPATHIES

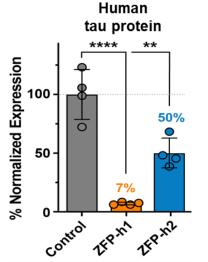


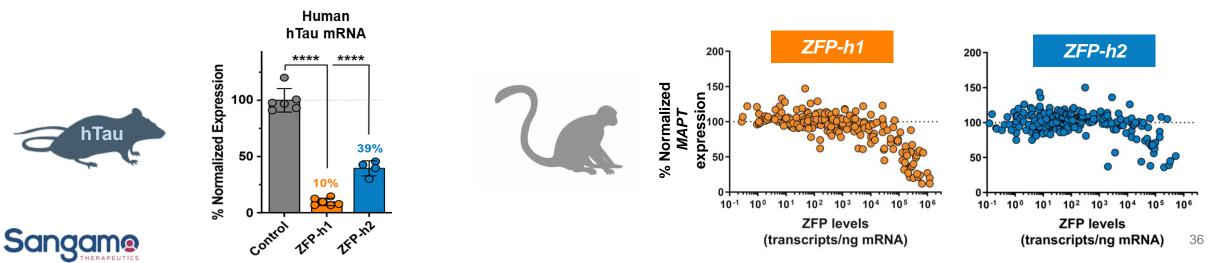
Tuning gene expression with ZFP-TFs to target disease pathology

ST-501 – ALZHEIMER'S DISEASE AND OTHER TAUOPATHIES







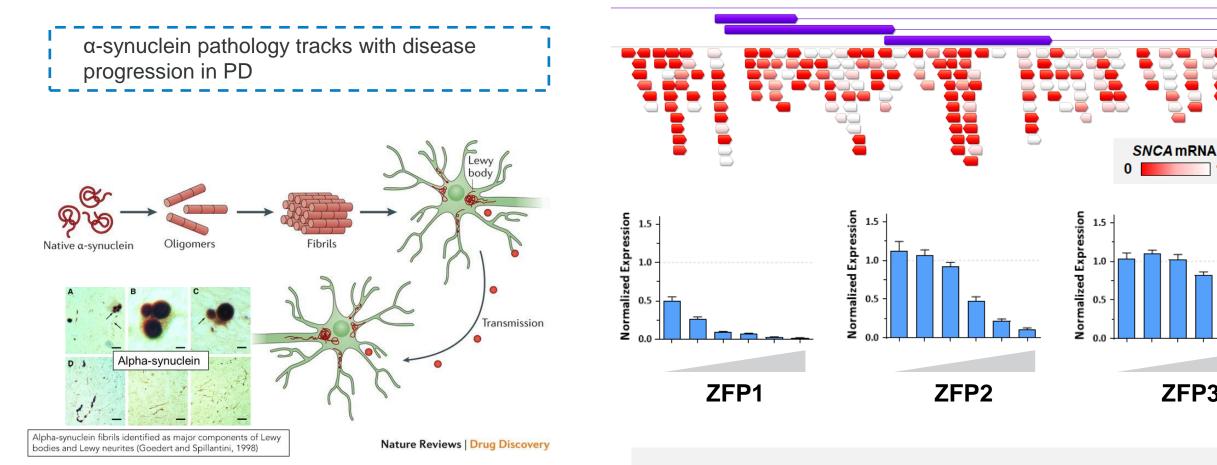


Reducing gene expression with ZFP-TFs to target disease pathology

Pan-Allele

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ST-502 - PARKINSON'S DISEASE



55% of ZFP-TFs reduced total SNCA by \geq 50%

Kingwell 2017

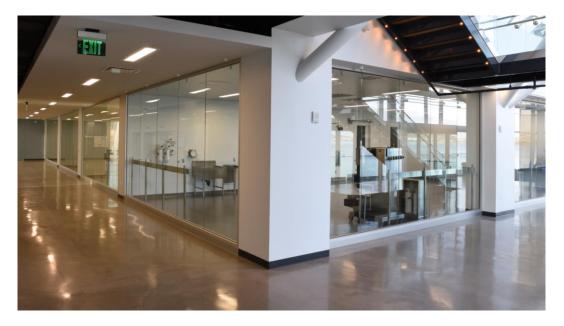


37

ZFP3

In-house cGMP facility and dedicated external manufacturing capacity

Ensuring control of quality, cost, IP and timelines



In-house Phase 1/2 cGMP Facilities

Brisbane, USA (late 2020/early 2021)

- Cell therapy
- Gene therapy

Valbonne, France (late 2021)

Cell therapy

CDMO Thermo Fisher – dedicated access to AAV capacity up to 2000-L bioreactor scale

- Leveraging Thermo Fisher AAV manufacturing know-how
- Enables seamless transition from early to late-stage development
- Provides late-stage clinical and large-scale commercial grade supply





- Genomic medicine company building value with gene therapy, *ex vivo* geneedited cell therapy, *in vivo* genome editing and genome regulation technology
- Precise, efficient and specific genomic medicine technology (ZFPs) backed by a robust patent estate
- Broad portfolio of rare and large indications across inherited metabolic diseases, immunology, CNS, hematology and oncology
- In-house cGMP facility and dedicated CDMO capacity provide manufacturing scale for clinical and commercial supply
- Strong balance sheet, five validating biopharma partnerships (Biogen, Gilead, Pfizer, Sanofi, Takeda)



