CATALYST BIOSCIENCES

Corporate Overview

12 February 2019

CATALYST BIOSCIENCES

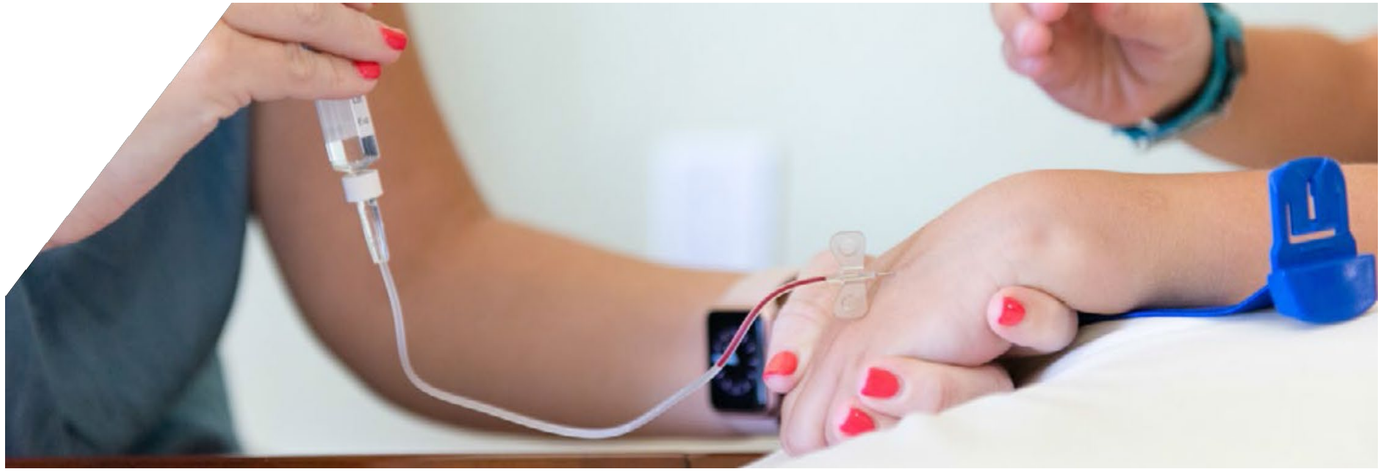
Forward looking statements

This presentation includes forward-looking statements that involve substantial risks and uncertainties. All statements, other than statement of historical facts, included in this presentation are forward-looking statements. Examples of such statements include, but are not limited to, plans for the completion of the ongoing subcutaneous (SQ) Phase 2 portion of a Phase 2/3 clinical trial of marzeptacog alfa (activated – MarzAA), presentation of topline MarzAA SQ Phase 2 data in Q3 2019 and initiation of a Phase 3 SQ trial of MarzAA in 2020, the potential benefits of SQ administration of MarzAA and dalcinonacog alfa (DalcA, formerly CB 2679d/ISU304), the potential for long-term dosing of DalcA to maintain FIX activity in the high-mild hemophilia range, statements relating to Catalyst's clinical trial timelines, including plans for initiation of a Phase 2b clinical trial of DalcA in the first quarter of 2019 and presentation of data in Q3 2019, and the potential market opportunities for both products. Actual results or events could differ materially from the plans and expectations and projections disclosed in these forward-looking statements.

Various important factors could cause actual results or events to differ materially from the forward-looking statements that Catalyst makes, including, but not limited to, the risk that trial initiation or enrollment may be delayed and that ongoing or future trials may not achieve their endpoints, that subsequent clinical trials will not replicate the results from earlier clinical studies on small numbers of patients, that potential adverse effects may arise from the testing or use of Catalyst's products, including the generation of antibodies or inhibitors, the risk that costs required to develop or manufacture Catalyst's products will be higher than anticipated, the risk of competition from other hemophilia treatments, including those in development, Catalyst's ability not to infringe third party intellectual property rights, and other factors described in the "Risk Factors" section of Catalyst's Quarterly Report on Form 10-Q for the quarter ended September 31, 2018, which was filed with the Securities and Exchange Commission on November 1, 2018. Forward looking statements in this presentation speak only as of the date hereof. Catalyst does not assume any obligation to update any forward-looking statements, except as required by law.

Catalyst Biosciences: CBIO

Nasdaq: CBIO



We are working to establish a new standard of care in hemophilia prophylaxis by developing highly potent subcutaneous treatments that improve the quality of life for patients with hemophilia with inhibitors, acquired hemophilia & hemophilia B

Investment highlights

Novel subcutaneous factors with orphan drug designation, MarzAA & DalcA

$3.4B market opportunity

MarzAA & DalcA SQ clinical efficacy demonstrated

Experienced team

~134 worldwide patents – CBIO retains full ownership of all compounds

Well funded
~$120 M cash (Q4 2018)

Life with hemophilia

Rare bleeding disorders – orphan diseases

Hemophilia A

Congenital lack of functional FVIII

- Treated with IV FVIII or SQ Hemlibra®

Hemophilia B

Congenital lack of functional FIX

- Treated with IV FIX products

Hemophilia A or B with inhibitors

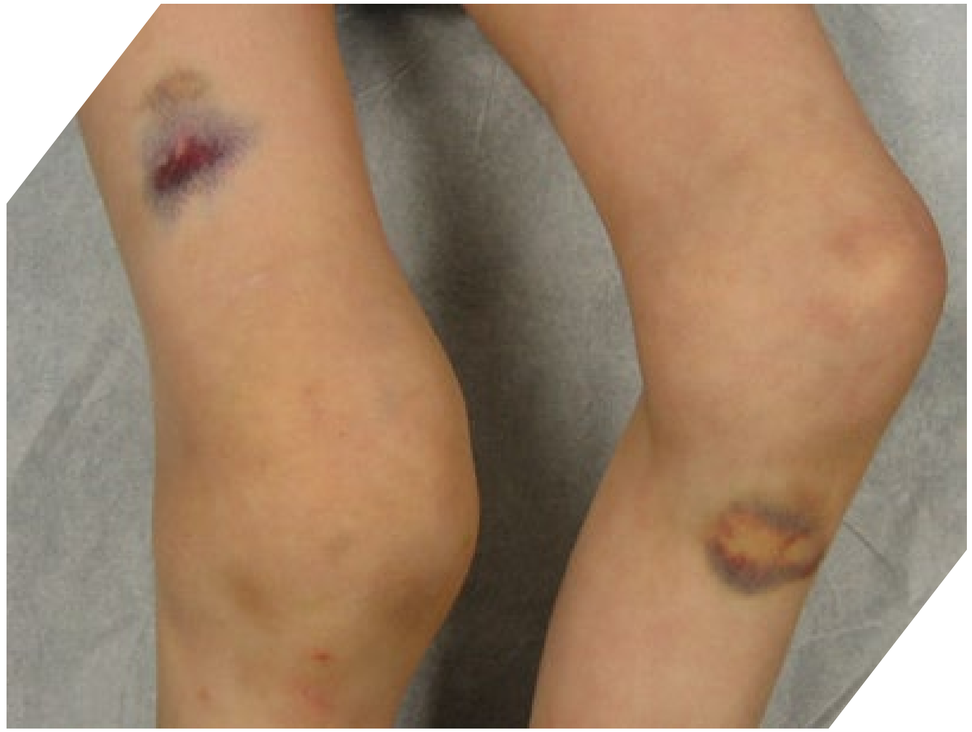
Antidrug antibodies that neutralize replacement clotting factor

- 30% of Hem A patients & 5% of Hem B patients
- High risk for hemorrhagic stroke & premature mortality
- Treated with IV bypass agents (FVIIa, FEIBA®) or SQ Hemlibra in Hem A inhibitors only

Acquired Hemophilia

Spontaneous, rare disorder, caused by anti-FVIII nAbs

- Treated with immunosuppressants + IV bypass agents (FVIIa, FEIBA® or Obizur®)
- High unmet need to prevent re-bleeds

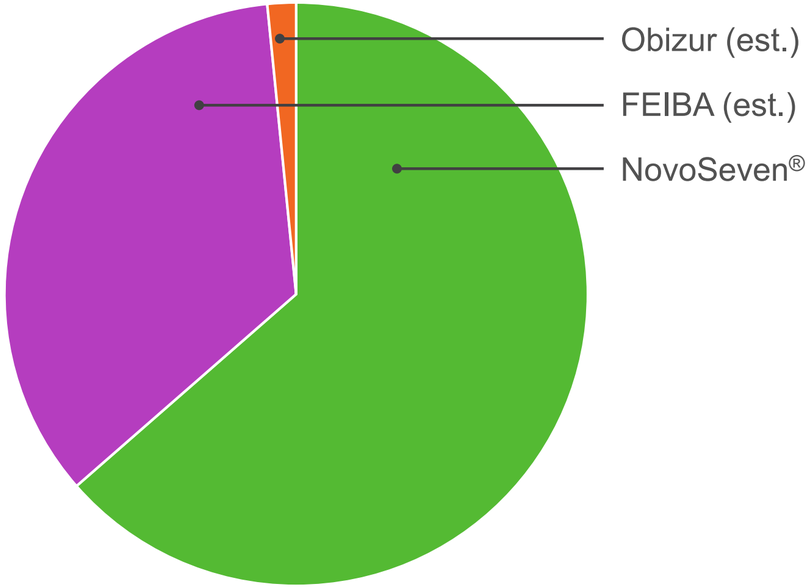


Market

Nasdaq: CBIO

FVIIa & Bypassing Agents: $2.2B market

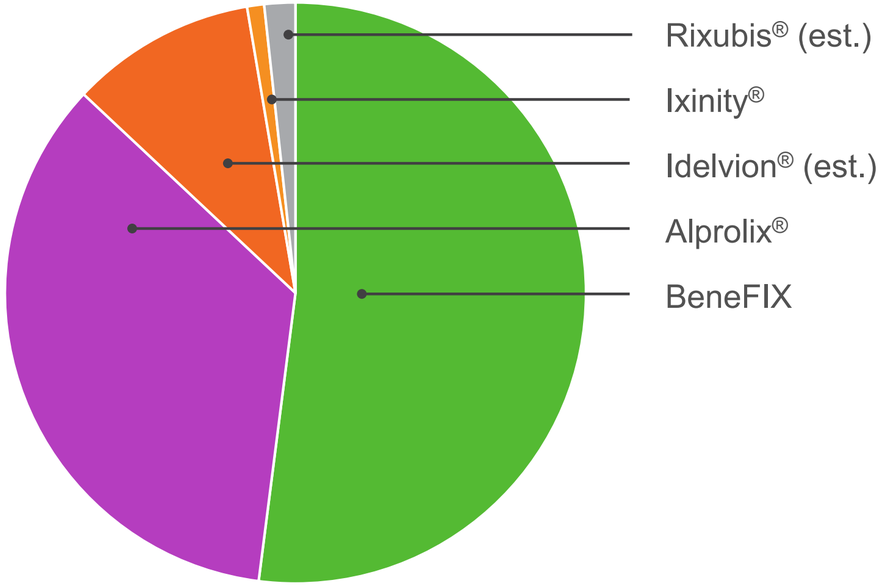
2017 Sales



In 2017 over 2,400 US and EU5 patients were treated with FVIIa and bypassing agents for hemophilia with inhibitors, acquired hemophilia and factor VII deficiency

Hemophilia B, FIX: $1.2B market

2017 Sales



In 2017 over 6,000 US and EU5 hemophilia B patients were treated with recombinant FIX

Sources: WFH Annual Global Survey, GlobalData, Roche, Novo Nordisk, Aptevo, SOBI, Bioverativ. *Hemlibra® had global sales of $224M in 2018

The Catalyst Biosciences subcutaneous solution

Nasdaq: CBIO

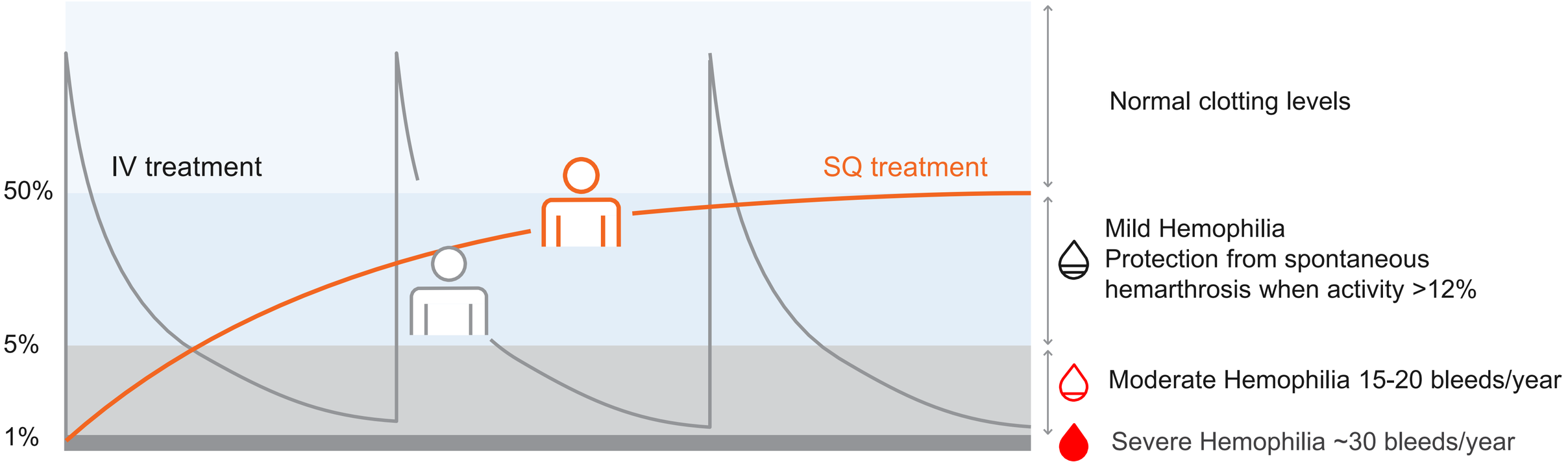
Our highly potent solution:

+ Quick & simple SQ Injection
+ Allows for self-administration especially in pediatric patients
+ Much higher & stable factor levels
+ Keeps patients at protective levels for much longer

The new standard in hemophilia prophylaxis

Nasdaq: CBIO

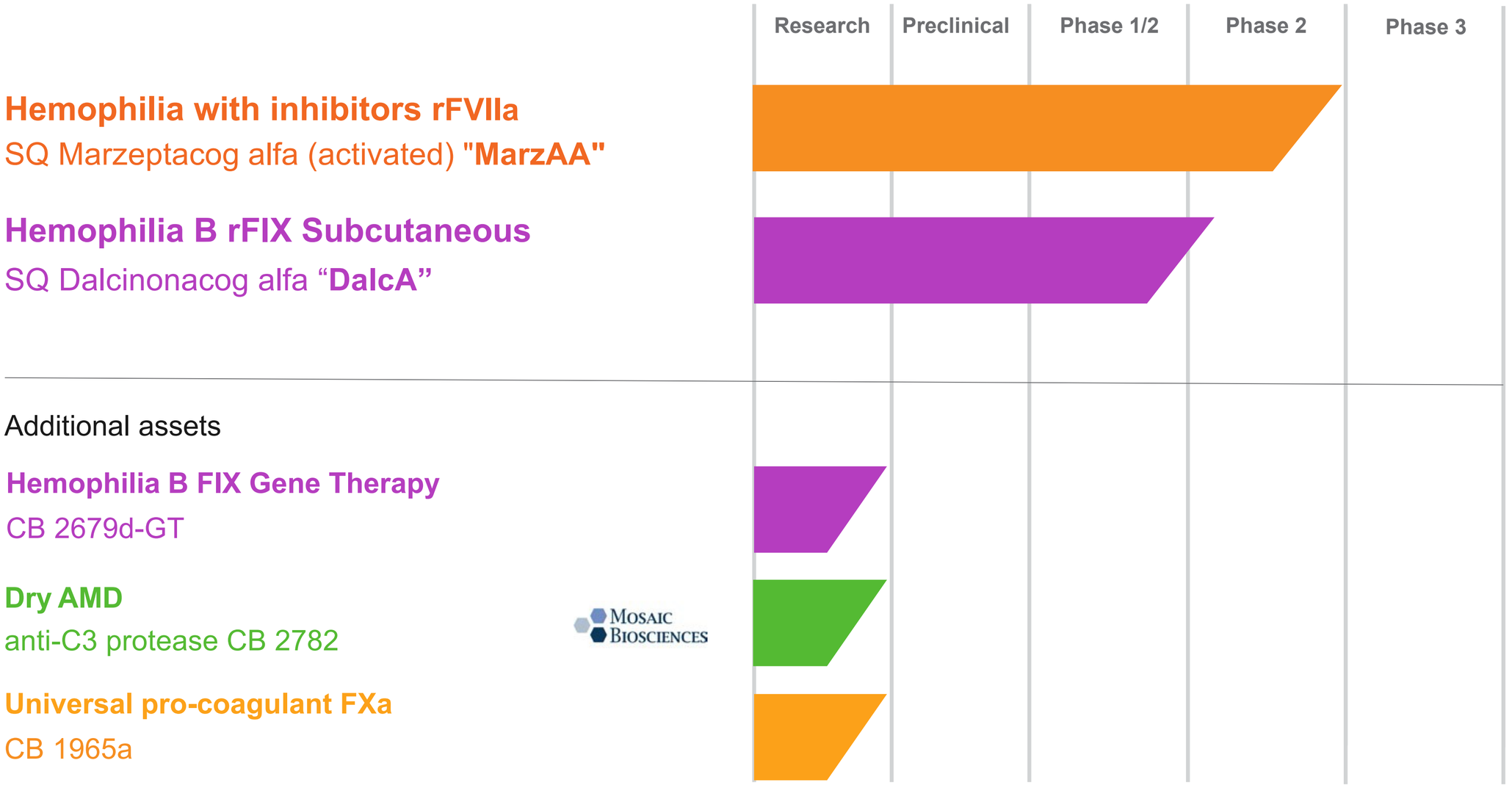
Patients in high mild range are protected from spontaneous bleeds



- The concept of prophylactic treatment is to keep severe & moderate hemophilia patients in the high mild range
- Our subcutaneous treatments build up over time, offering long-term stability in clotting levels

Pipeline

Nasdaq: CBIO



Marzeptacog alfa (activated)

Marzeptacog alfa (activated), a novel clinical stage SQ FVIIa product candidate differentiated from IV market leaders:

- SQ enhances pharmacokinetics
- Potential to maintain continuous protective levels
- Disruptive to current intravenous bypass products
- Especially well suited for children

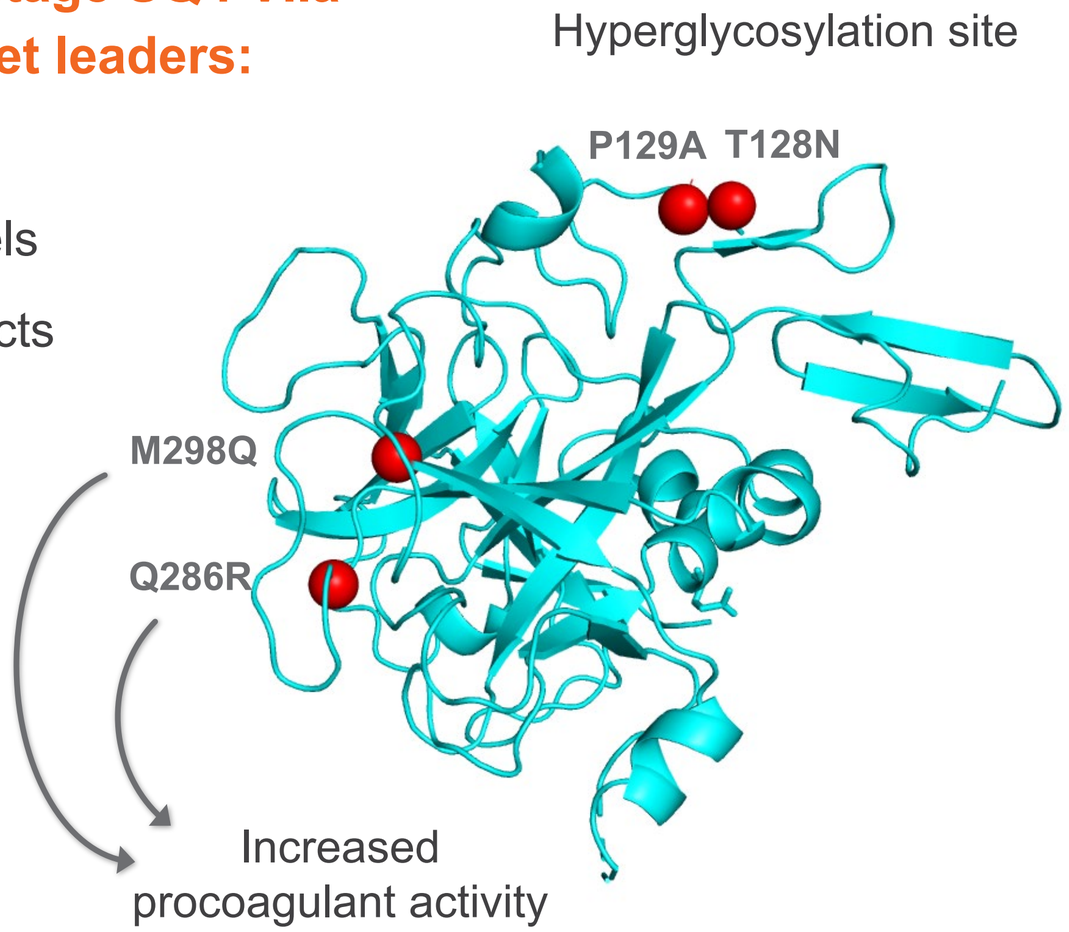
Four engineered substitutions

- Catalytic activity & half-life increased

Best-in-class high-potency rFVIIa product

- 9-fold more potent than NovoSeven RT
- One drug solution

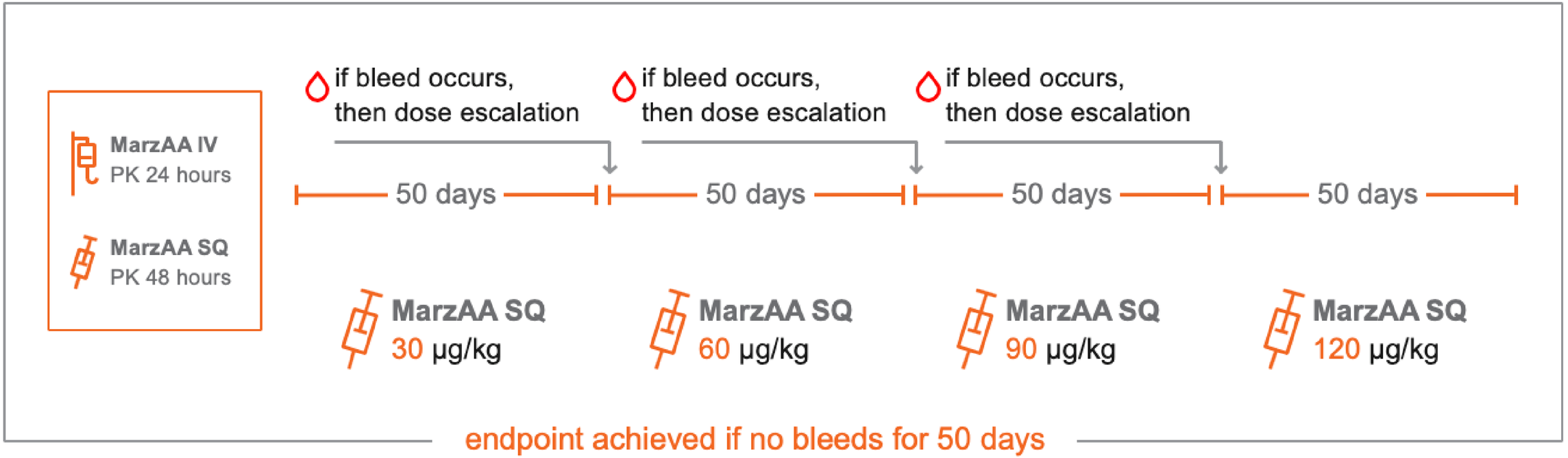
Orphan Drug Designation in US



MarzAA phase 2/3 SQ clinical trial design

Nasdaq: CBIO

+ Individualized dose escalation if needed **+ Enrollment completed**



- Open label SQ study with individual dose escalation if needed
- Hemophilia A or B with inhibitors
- Patients with documented annual bleeding rate (ABR) >12
- Primary endpoint: reduction in annualized bleed rate **at final dose level**
- Secondary endpoints: safety and tolerability, no inhibitor formation

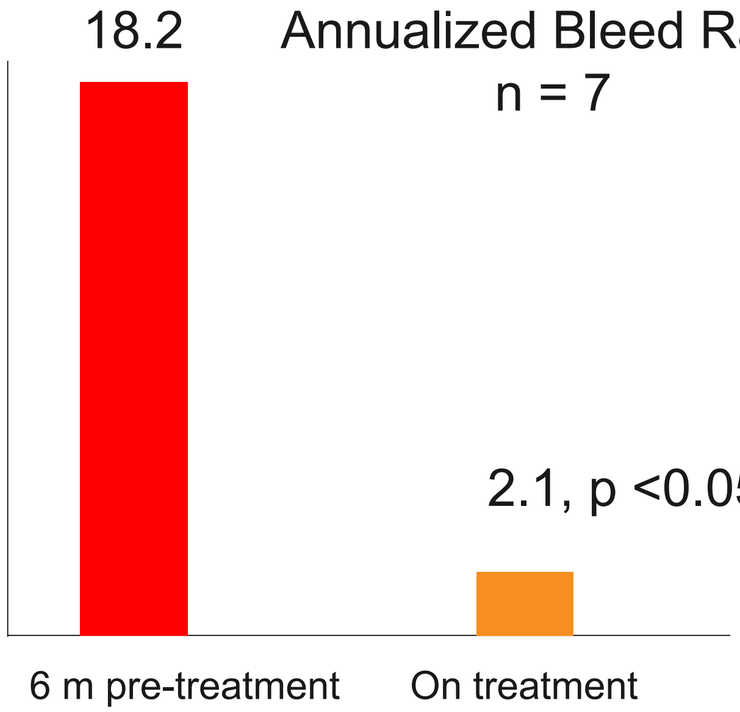
MarzAA P2 clinical efficacy: >90% reduction in bleeding

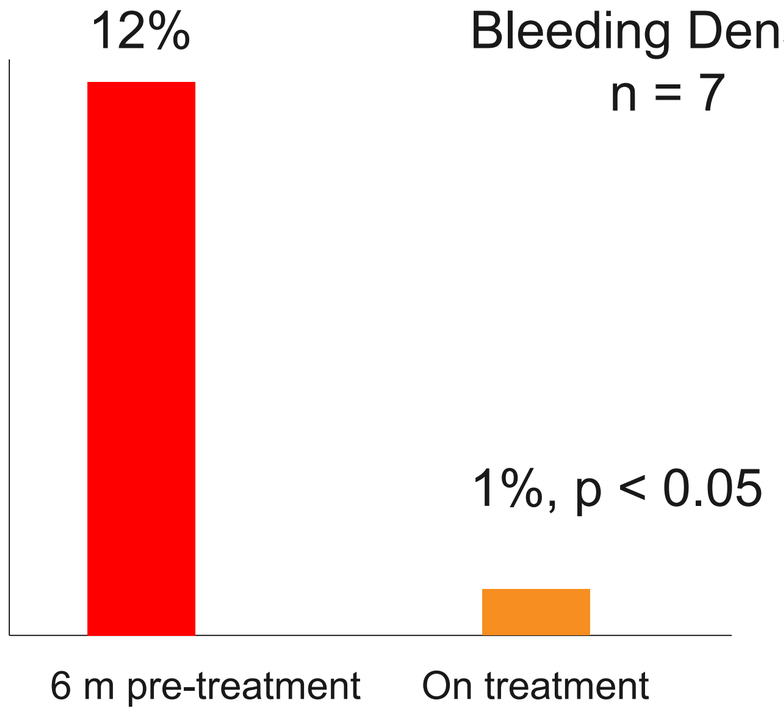
Nasdaq: CBIO

Annualized bleeding rates (ABR) reduced from 18.2 to 2.1 (5 of 7, no bleeds for 50 days)

Bleed density significantly reduced from 12% to 1%

Safe & well tolerated, ~1% ISRs (>450 doses) and no ADAs





Levy *et al.* EAHAD 2019

Marzeptacog alfa (activated)

Phase 3 registration study to initiate in Q1 2020

Clinical efficacy & tolerability demonstrated

Additional clinical data at ISTH 2019

Pivotal trial guidance obtained from EMA & MHRA
FDA end-of-phase 2 in late 2019

Dalcinonacog alfa

Dalcinonacog alfa, a novel clinical stage SQ FIX product candidate differentiated from IV market leaders

- SQ enhances pharmacokinetics
- Potential to maintain continuous protective levels
- Disruptive to all current intravenous products
- Especially well suited for children

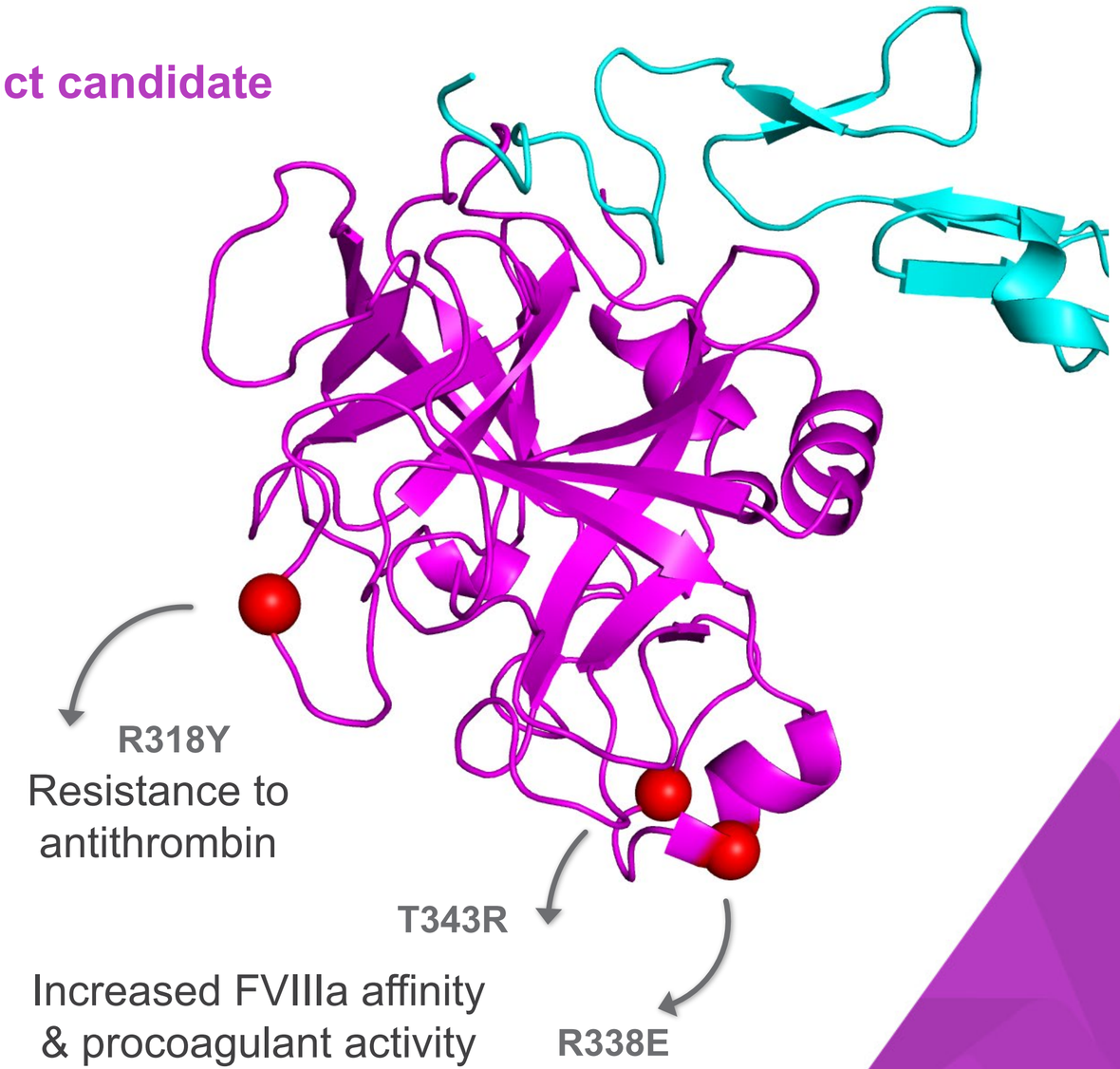
Three engineered substitutions

- Catalytic activity increased
- Affinity for activated factor VIII increased
- Resistance to inhibition by antithrombin improved

Best-in-class high-potency recombinant FIX product

- 22-fold more potent than BeneFIX in man

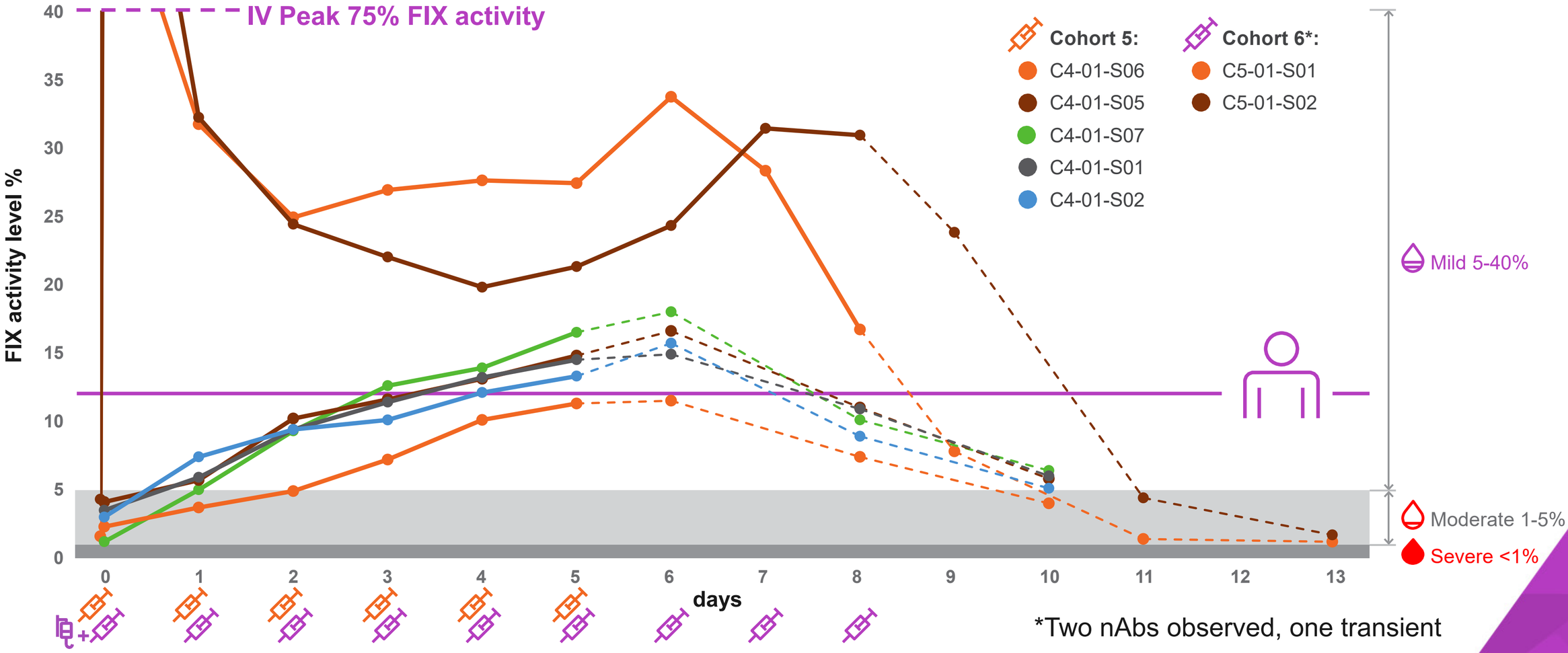
Orphan Drug Designation in US & EU



DalcA Phase 1/2 clinical trial FIX activity results

Nasdaq: CBIO

Trough levels >12% are sufficient to protect against spontaneous joint bleeds



*Two nAbs observed, one transient

Dalcinonacog alfa

Entering P2b clinical development after an extensive immunogenicity risk assessment

Preclinical immunogenicity assessment shows that dalcinonacog alfa is equivalent to that of competitors such as BeneFIX

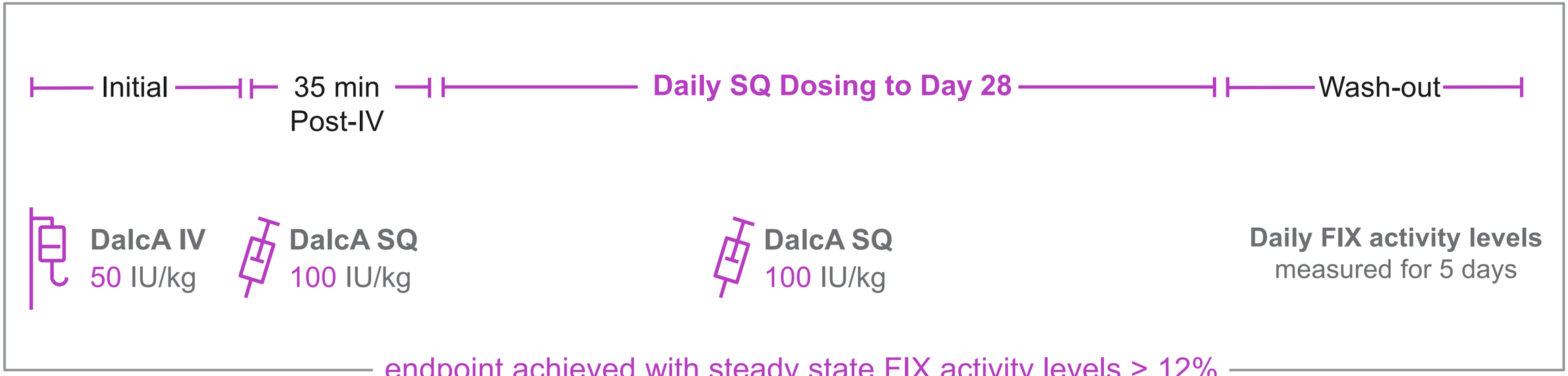
A comprehensive evaluation of the drug product shows comparable quality to marketed rFIX products

KOLs & subject experts agree with low immunogenicity risk assessment & proceeding to a P2b study to evaluate the safety & efficacy of long-term dosing

Dalcinonacog alfa phase 2b SQ clinical trial design

Nasdaq: CBIO

DLZ-201 – initiating in Q1



- Enrollment: 6 patients
- Single IV dose followed by 28 day SQ dosing
- Primary endpoint: Steady state FIX activity level above 12% with daily dosing
- Secondary endpoints: neutralizing antibody formation, pharmacokinetics, pharmacodynamics

CB 2679d-GT for gene therapy in hemophilia B

Nasdaq: CBIO

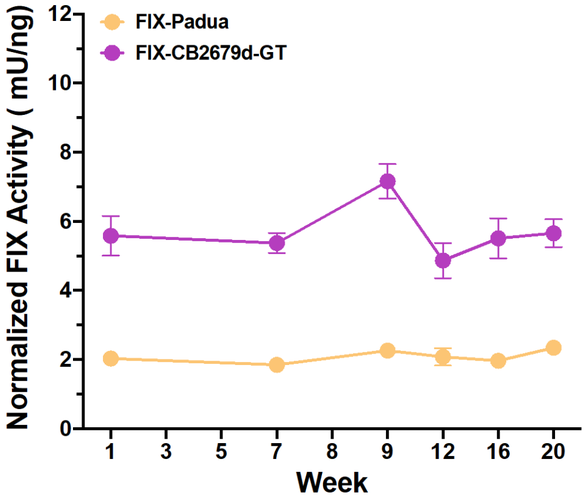
Strategic asset for long-term portfolio development

Superior preclinical potency of CB 2679d-GT *vs* Padua

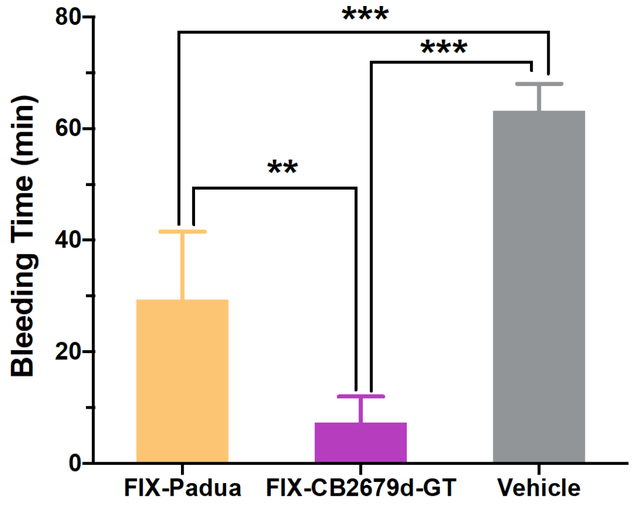
+ Compared AAV gene therapy efficacy of CB 2679d-GT *vs* FIX-Padua in hemophilia B mice
+ Antigen and activity levels elevated throughout the study, no nAbs
+ **3-fold superior clotting activity**
+ **4-5 fold reduction in bleeding time,** more rapid and robust hemostatic correction of bleeding with reduction in bleeding time
+ Potential for higher activity levels & lower vector dose could improve efficacy, safety & manufacturing cost

Does not impact Dalcinonacog alfa development, P2b initiating in Q1, or 2019 spending

Blouse *et al.* EAHAD 2019



FIX activity normalized to FIX protein (mU/ng ± SEM)
High vector dose group: $1x10^{10}$ vg/mouse



Bleeding time +/- SD (*** P<0.001, ** P<0.01)
High vector dose group: $1x10^{10}$ vg/mouse

Financial information

Nasdaq: CBIO

Selected data

Operating Results	Q3 2018	Q3 YTD
Operating Expense	$8.3 M	$22.1 M
Net Loss	($7.7 M)	($19.2 M)
Net Loss per share	($0.64)	($1.75)

2018 Forecast		2019 Estimate	
OpEx	~$30 M	OpEx	~$56 M
Cash	**~$120 M**	Cash Burn	~$50 M

Share Data

Common Stock Outstanding	11,942,729
Officer & Director ownership	8.1%
Fully Diluted Shares	14,623,688
Average Volume	240,700
Market Capitalization as of 8 February 2019	...$99M

Financial Strength

Cash & Cash Equivalents Q3/2018	$129.2 M

2019 Milestones

Nasdaq: CBIO

	Q1	Q2	Q3	Q4
MarzAA (FVIIa)	**P2 efficacy Enrollment complete** 	**Initiate P1 PK/PD**	**Topline P2 Data**	**Final P2 & P1 PK/PD data** **FDA EoP2 A/B Inhibitors**
DalcA (FIX)	**Initiate P2b**		**P2b data**	**Final P2b data**
CB 2679d-GT (FIX)	**Preclinical efficacy** 			
Anti-C3 (dAMD)		**Ocular EHL PK/PD**		

Summary

Disruptive approach to a $3.4 billion market

Subcutaneous prophylactic dosing of novel factors is less painful, more convenient and potentially more efficacious, especially for children – **Clinical efficacy demonstrated for both MarzAA & DalcA**

FVIIa: MarzAA ~$2.2 Billion market

>90% reduction in ABR & bleed density in P2

No ADAs or nAbs observed to date

+ Phase 2 data presented at EAHAD & topline available at ISTH 2019
+ Pivotal trial guidance obtained from EMA
+ FDA EoP2 in 2019

FIX: DalcA ~$1.2 billion market

>30% activity levels achieved with daily SQ dosing

Potential to maintain long-term FIX activity in the mild hemophilia range

+ Phase 2b initiates in Q1 2019
+ Phase 2b safety & efficacy data in Q3 2019

Strong financial position, ~2.5 years cash

THANK YOU

Nasdaq: CBIO

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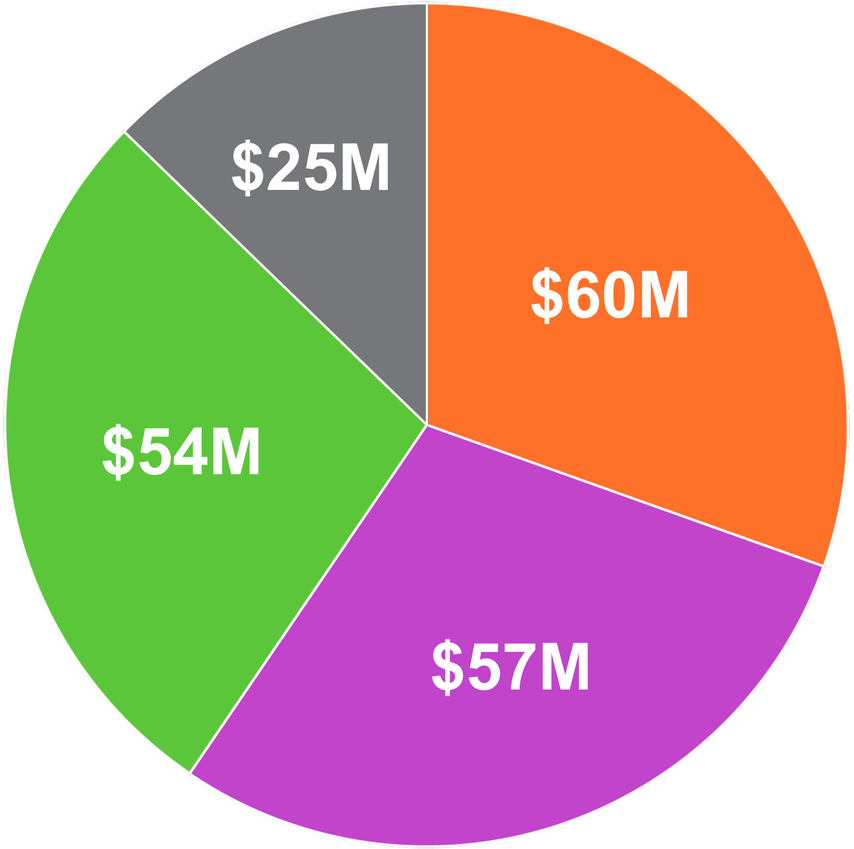
MarzAA US Revenue Forecast $196M (~$400M Worldwide)

Target Product Profile Strongly Resonates Across Multiple Indications

Factor VII Deficiency
>50% “very willing” to use MarzAA

Acquired Hemophilia A
>75% “very willing” to use MarzAA



Hemophilia B Inhibitors
>70% “very willing” to use MarzAA

Hemophilia A Inhibitors
~50% “willing” or “very willing” to use MarzAA

ADIVO ASSOCIATES

Team

President & CEO

Nassim Usman, Ph.D.

Massachusetts Institute of Technology · RPI · Sirna Therapeutics

26 years in biotech

SVP, Technical Operations

Andrew Hetherington, M.B.A.

gsk · Bayer · Novartis

20 years in biotech

Chief Medical Officer

Howard Levy, M.B.B.Ch., Ph.D., M.M.M.

Sangart · novo nordisk · CSL · Lilly · Inspiration Biopharmaceuticals

18 years in hematology

VP, Translational Research

Grant Blouse, Ph.D.

novo nordisk · Catalyst Biosciences · Wayne State University School of Medicine · Aarhus University Department of Molecular Biology and Genetics · Henry Ford Health System

12 years in biotech

Chief Financial Officer

Fletcher Payne

RiNAT · Cell Genesys · Dynavax Innovating Immunology · IBM · CytomX Therapeutics · Plexxikon · Abgenix

26 years in biotech

VP, Business Development

Jeffrey Landau, M.B.A.

Jazz Pharmaceuticals · Onyx Pharmaceuticals · Lilly · Threshold Pharmaceuticals

16 years in biotech