**CSL Limited** 45 Poplar Road Parkville Victoria 3052 Australia T +613 9389 1911 F +613 9389 1434 www.csl.com.au

## ASX Announcement

For immediate release

19 October 2021

#### CSL's Annual R&D Day - 2021

**CSL Limited (ASX:CSL; USOTC:CSLLY)** – CSL will hold its annual Research and Development briefing today; the presentation is attached for the information of investors.

Amongst other achievements, CSL is pleased to highlight the following:

- CSL's Seqirus business advances first-of-its-kind adjuvanted, cell-based seasonal influenza vaccine (aQIVc) and increases work on its selfamplifying mRNA (sa-mRNA) development program. Earlier this month, the Biomedical Advanced Research and Development Authority (BARDA) awarded Seqirus a multi-year contract to provide clinical development services to evaluate the safety, immunogenicity, and dose-sparing capability of two H2Nx influenza vaccine candidates: one using a combination of Seqirus' FDA-licensed cell-based and adjuvanted technologies, and the other using its next generation sa-mRNA platform.
- New collaboration with the Walter and Eliza Hall Institute for Medical Research (WEHI), one of the most prominent medical research and medicine development organisations in Australia, to create a Centre for Biologic Therapies.
- Phase III study of 4-Factor Prothrombin Complex Concentrate to improve survival in traumatic injury and acute major bleeding will be initiated and the VANGUARD Phase III clinical trial for Garadacimab, a treatment in hereditary angioedema (HAE), enrolled its last patient – two months ahead of schedule. Additionally, recruitment from the AEGIS-II Phase III study of CSL112 (ApoA-1) for treatment of acute coronary syndrome is progressing despite COVID-19 impact on clinical trial sites and patients. More than 14,000 people have been enrolled in this study to date.
- Preparations are underway for EtranaDez, a gene therapy for haemophilia B, to submit a Biologics Licensce Application for the US and Marketing Authorisation Application for the EU.
- Overall, R&D investment was more than \$1 billion in the past fiscal year -across six therapeutic areas (immunology, haematology, respiratory, cardiovascular and metabolic, transplant, influenza), four scientific platforms (plasma fractionation, recombinant technology, cell and gene therapy, vaccines) and two businesses (CSL Behring and Seqirus).



## ASX Announcement

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19 October 2021

"We continue to evolve as a leading plasma-based biotechnology company with purposeful diversity in therapeutic areas, scientific platforms and strategic alliances," said Dr. Bill Mezzanotte, Executive Vice President, Head of R&D, Chief Medical Officer for CSL. "We are continuing to invest in our core plasma business while also enhancing our other scientific platforms to better deliver on our promise to discover, develop and provide innovations that save and improve lives around the world."

Shareholders can access the briefing through CSL's website at CSL.com.au.

#### **Approved for Release**

Fiona Mead Company Secretary

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## R&D Investor Briefing 2021

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DRY HEATER PART

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October 19, 2021

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The forward-looking statements are based on CSL's good faith assumptions as to the financial, market, risk, regulatory and other relevant environments that will exist and affect CSL's business and operations in the future. CSL does not give any assurance that the assumptions will prove to be correct. The forward-looking statements involve known and unknown risks, uncertainties and assumptions and other important factors, many of which are beyond the control of CSL, that could cause the actual results, performances or achievements of CSL to be materially different to future results, performances or achievements expressed or implied by the statements. Factors that could cause actual results to differ materially include: the success of research and development activities, decisions by regulatory authorities regarding approval of our products as well as their decisions regarding label claims; competitive developments affecting our products; the ability to successfully market new and existing products; difficulties or delays in manufacturing; trade buying patterns and fluctuations in interest and currency exchange rates; legislation or regulations that affect product production, distribution, pricing, reimbursement, access or tax; acquisitions or divestitures; research collaborations; litigation or government investigations, and CSL's ability to protect its patents and other intellectual property.

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## Introduction

### William Mezzanotte MD

Executive Vice President, Head of R&D and Chief Medical Officer

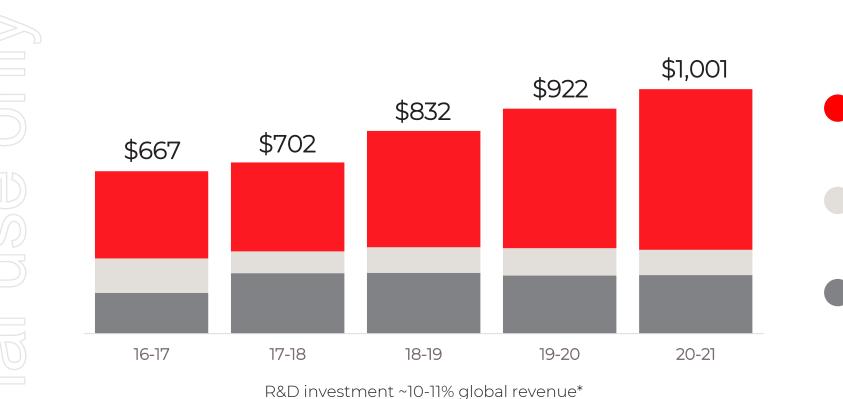
CSL Behring

VINO



01	02	03	04
Welcome	Introduction – FY21 Retrospective & Highlights	Research	Development
Mark Dehring	Bill Mezzanotte	Andrew Nash	Deirdre BeVard
05	06	07	08
Commercial	Seqirus	Looking toward FY22 & Summary	Q&A
Bill Campbell	Russell Basser & Ethan Settembre	Bill Mezzanotte	Panel

## Commitment to Research and Development



New Product Development activities focus on innovative new therapies for life-threatening diseases

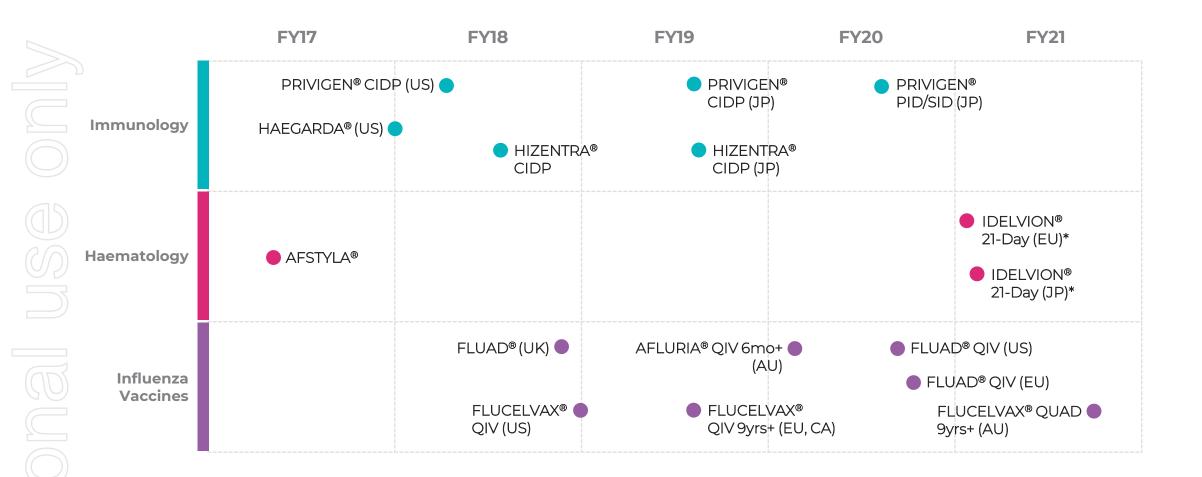
Market Development strategies seek to bring therapies to new markets and new indications

Life Cycle Management ensures continuous improvement of existing products

\* Investment reported in US\$ millions; Includes R&D for CSL Behring and Seqirus

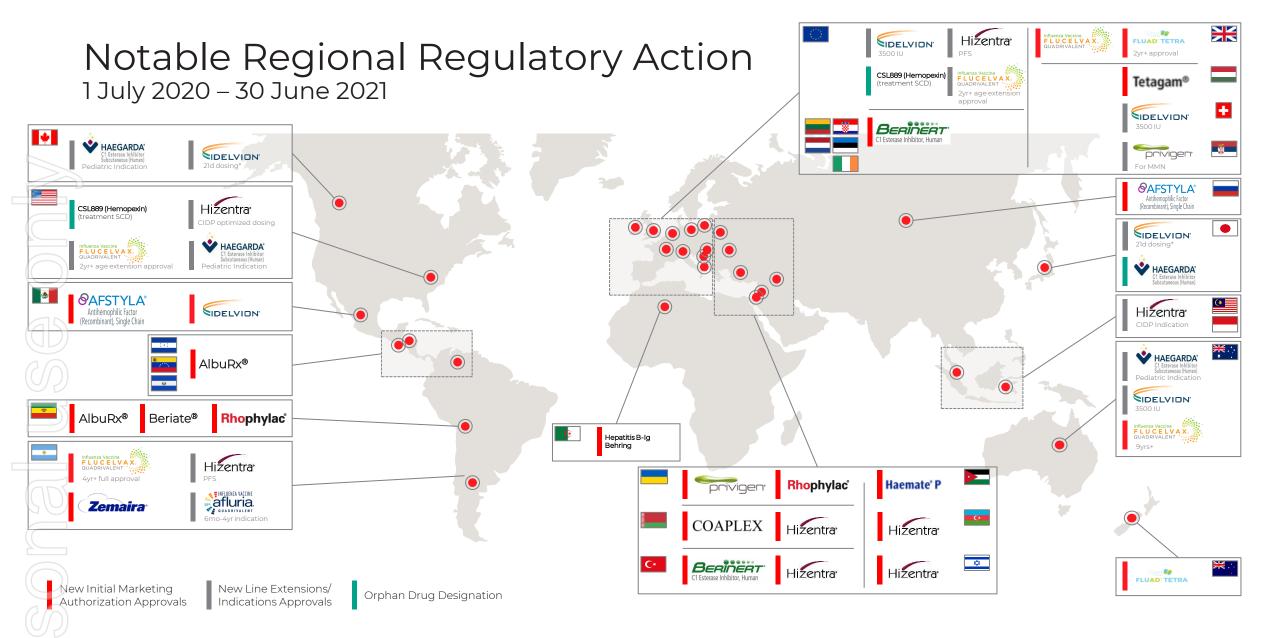
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## Key Past Launches from R&D Portfolio



\* Expanded label for dosing every 21 days for patients ≥12 years in age, depending on individual patient and efficacy (and jurisdiction)

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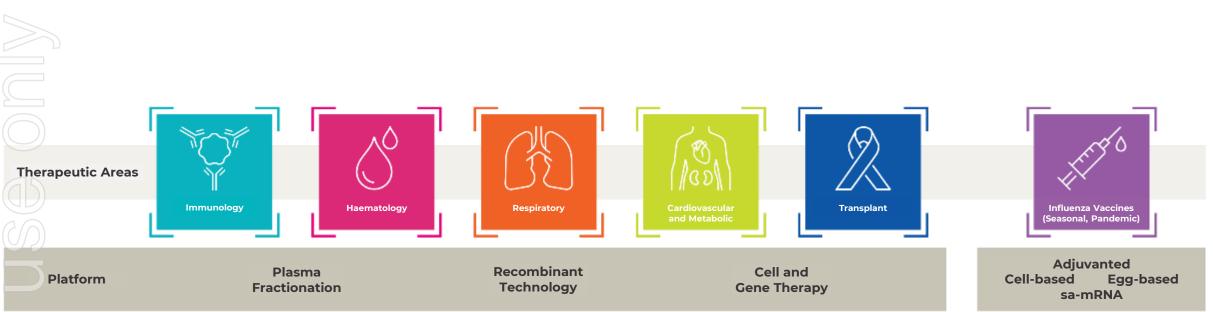


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\* Every 21 days in patients ≥12 years of age, depending on individual patient and efficacy (and jurisdiction) Abbreviations: SCD - Sickle Cell Disease; PFS - Pre-filled Syringe; MMN - Multifocal Motor Neuropathy; CIDP - Chronic Inflammatory Demyelinating Polyneuropathy CSL

## Focus Through Our Therapeutic Areas and Platforms



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## R&D Highlights – FY21



### Immunology

- HIZENTRA<sup>®</sup> 5-, 10- & 20-mL pre-filled syringes launched in US
- **PRIVIGEN®** for CIDP launched in Japan
- HAEGARDA® approval for paediatric patients (US, AU & CA)
- HAEGARDA® ODD approved in Japan
- First patients enrolled in Garadacimab Phase III studies

### Cardiovascular & Metabolic

- CSL112 (ApoA-1) Phase III study (AEGIS-II) >13,000 patients enrolled, successful completion of 1<sup>st</sup> & 2<sup>nd</sup> futility analyses
- First patient enrolled in CSL346 Anti-VEG-B DKD Phase II study



- uniQure announced positive data from Phase III trial of EtranaDez
- Anti-trust clearance received; licence agreement with uniQure completed for EtranaDez
- CSL889 Hemopexin ODD approved in EU & US
- CSL889 Hemopexin fast track designation for SCD approved by US FDA; first patient enrolled in Phase I study
- IDELVION<sup>®</sup> 21 day extended dosing option approved in Japan
- Recombinant FIX approved in Mexico as IDELVIAN
- AFSTLYA® approved in Great Britain, Russia & Mexico



 First patient enrolled in CSL787 Nebulised Ig Phase I study

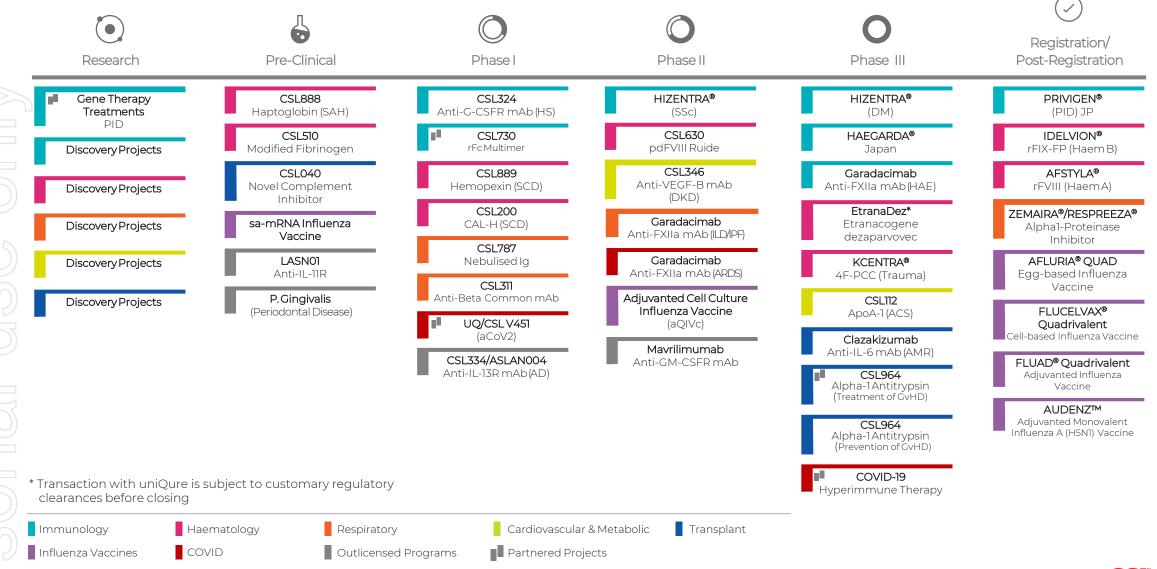


 Last patient dosed in Part 1 of CSL964 for prevention of GvHD study

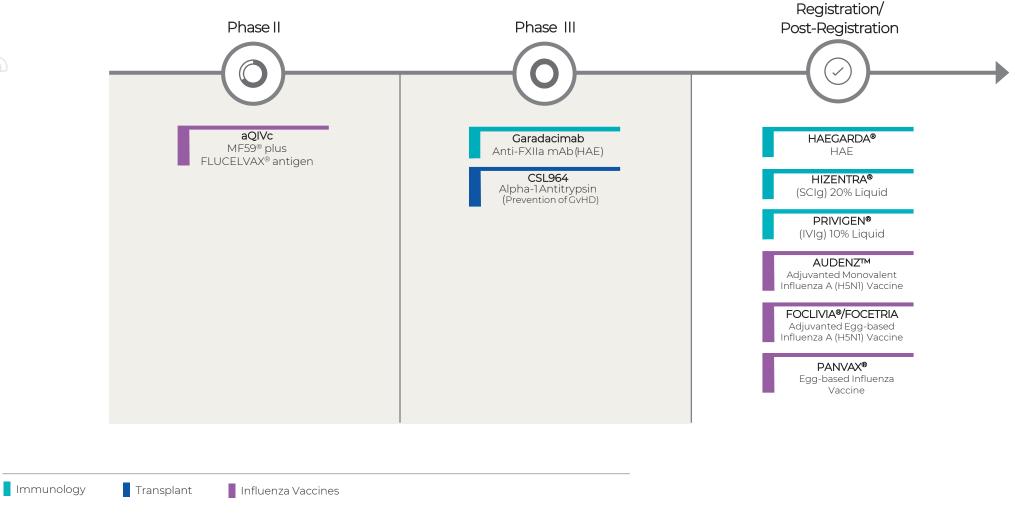


- Commencement of aQIVc Phase II study
- Pre-clinical assessment of self-amplifying mRNA vaccine for seasonal & pandemic influenza

## R&D Portfolio – October 2020



## R&D Product Progression in FY21



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## Kcentra<sup>®</sup> in Trauma

### Trauma is the leading cause of morbidity and mortality in the US\*

Haemorrhage is the most common, preventable cause of early death following Trauma



#### Trauma and 4-F PCC Phase III Study

- Kcentra<sup>®</sup> + Standard of Care vs. Standard of Care
- Primary endpoint: 6-hr all-cause mortality
- Up to 8,000 patients



## ~880k

patients suffer traumatic injury annually in US



## 35-40%

of Trauma patients experience life threatening Acute Major Bleeding (AMB)



Through early administration in the Emergency Department, Kcentra® is intended to restore effective hemostasis, stop bleeding quickly, and improve survival of Trauma patients with AMB



Data from preclinical and clinical studies<sup>1-3</sup> support use of Kcentra<sup>®</sup> in trauma resuscitation

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\* Among children, adolescents and young adults 1-44 years old Abbreviations: 4-F PCC- Four-Factor Prothrombin Complex Concentrate <sup>1</sup> Ghosh, S. et al., (2021) https://doi.org/10.1371/journal.pone.0258192
 <sup>2</sup> Zeeshan, M. et al., (2019) J Trauma Acute Care Surg 87(2):274-281
 <sup>3</sup> Joseph, B. et al., (2014) World J Surg 38(8):1875-81

## Hizentra<sup>®</sup> Secondary Immune Deficiency (SID)

Infections Remain Leading Cause of Death in Chronic Lymphocytic Leukemia (CLL) – Effective Infection Prevention is an Unmet Need

Phase III Efficacy, Safety and Pharmacokinetic Study of Hizentra<sup>®</sup> for Prevention of Infection in Adults with CLL and Hypogammaglobulinemia



**Study Objective**: Demonstrate benefit of treatment with subcutaneous immunoglobulin in prevention of infections in patients with CLL and hypogammaglobulinemia



# Research

### Andrew Nash PhD

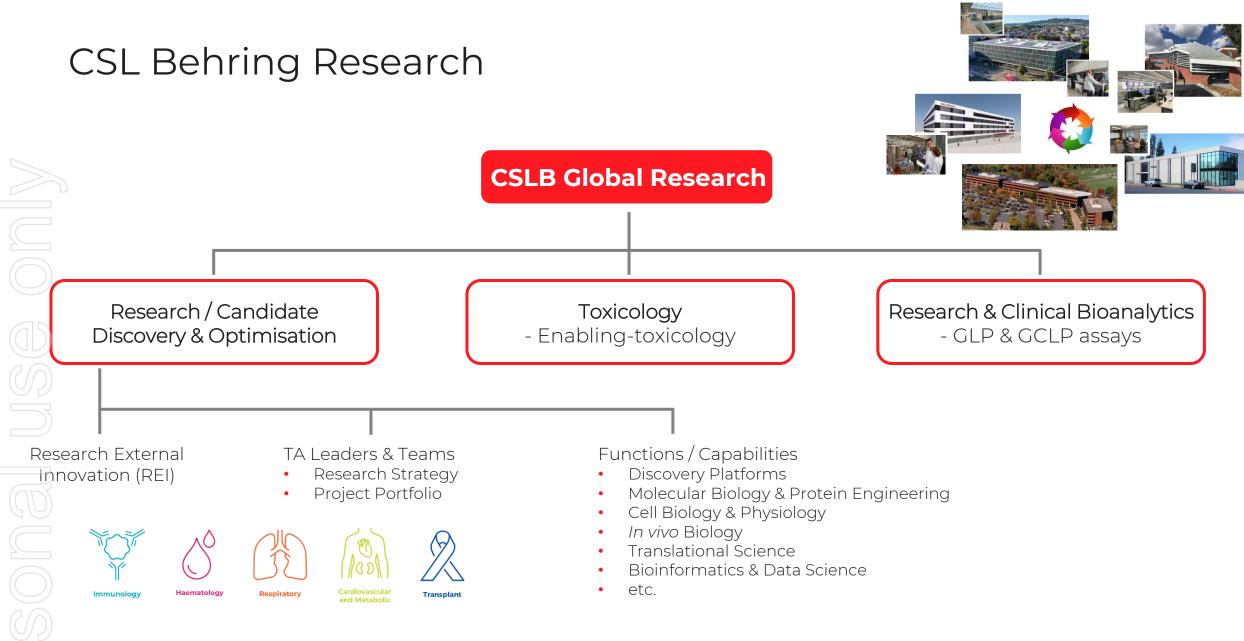
Senior Vice President, Research and Chief Scientific Officer

RADEPT!

CSL Behring



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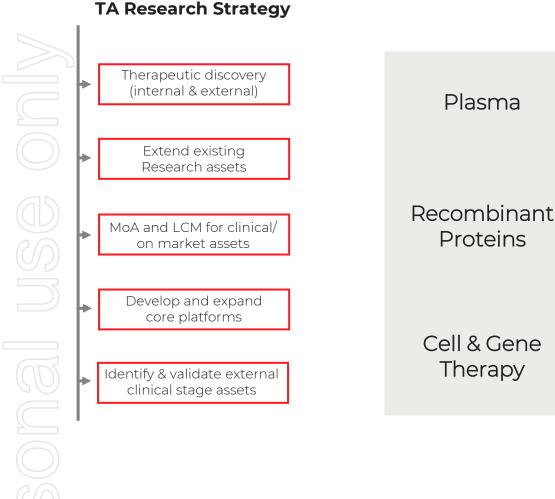
## CSL Behring Research – Strategy & Focus

Plasma

Proteins

Cell & Gene

Therapy



Abbreviations: FIH – First-in-Human: MoA – Mechanism of Action: LCM – Life Cycle Management

- Lead strategically aligned discovery research through: ٠
  - Internal & external innovation
  - External asset procurement •
- Translate forward and reverse to better understand opportunities and reduce risk
- Accelerate discovery outcomes through to FIH ٠
- **Extend** current Research assets for TA-aligned indications ٠
- **Develop** and expand core platforms ٠
- Drive clinical stage asset development including through ٠ MoA and LCM studies



Individual Therapeutic Area (TA) Research Strategies

Respiratory





Haematology





Immunology

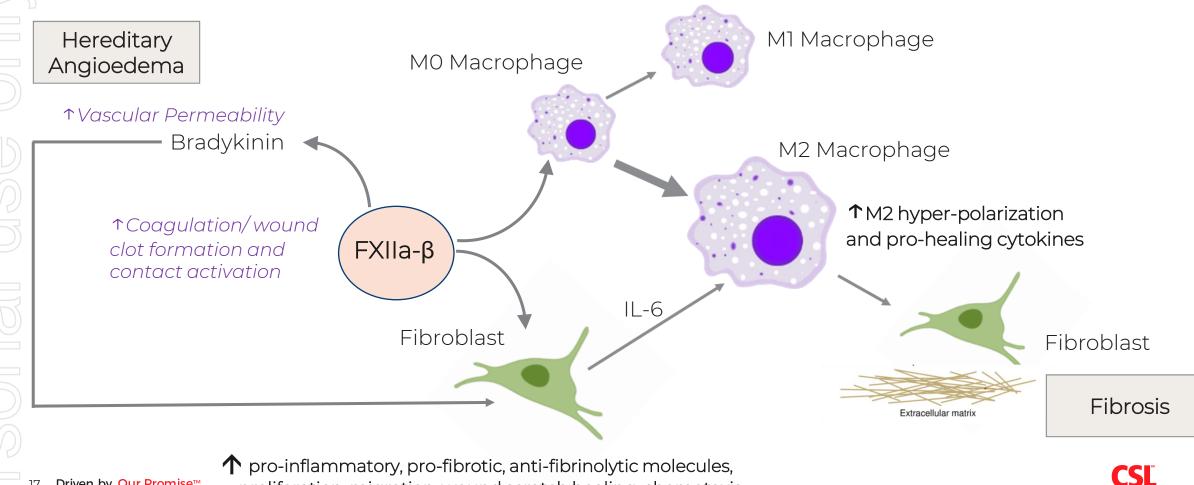
Cardiovascular &

Transplant



Development of Garadacimab for Progressive Fibrosing Interstitial Lung Disease (PF-ILD)/Idiopathic Pulmonary Fibrosis (IPF)

Role of FXII in Fibrogenesis



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proliferation, migration, wound scratch healing, chemotaxis

## Development of Garadacimab for PF-ILD/IPF

Summary of Key Supportive Research Data

### Clinical Data

• FXII increased in IPF lung tissues and in blood from patients with progressive IPF

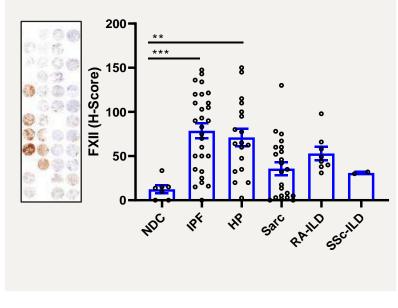
#### Experimental Data

- Garadacimab inhibits FXIIa- $\beta$ -induced fibrotic function of primary human lung fibroblasts
- FXIIa- $\beta$  promotes fibrotic M2-type macrophages, reinforced by IL-6 ightarrow feedback loop
- Blocking FXIIa- $\beta$  with 3F7\* inhibits fibrosis in experimental mouse models:
  - Lung, liver and renal fibrosis models



Phase II – expected to commence H2 FY22

FXII Staining is Increased in PF-ILD Lungs – Tissue Microarray

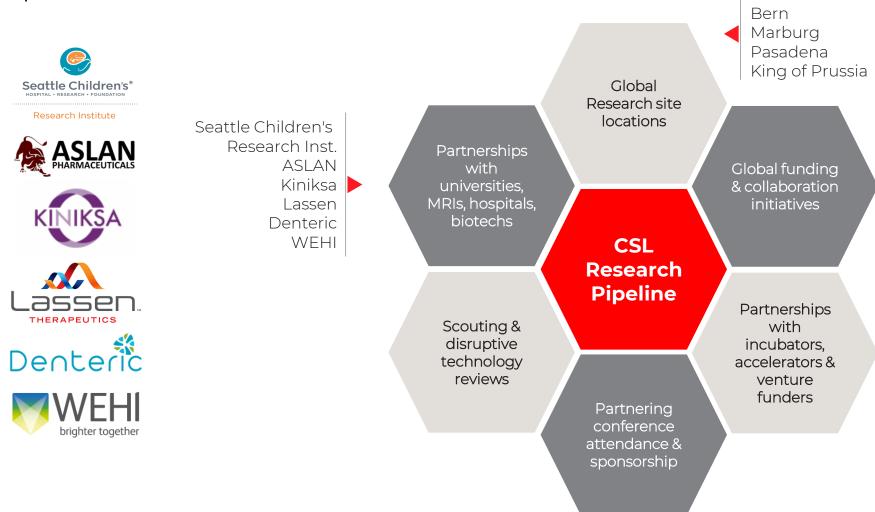




## Research External Innovation & Collaboration Strategy



Parkville

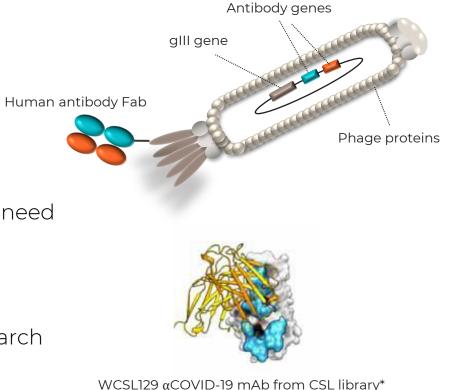


## Research External Innovation & Collaboration Strategy

Centre for Biologic Therapies



- New jointly funded strategic initiative based in Parkville precinct
- Novel biological therapies for treatment of serious unmet medical need
- Translational / commercialisation opportunities for WEHI
- Potential new pipeline opportunities for CSL
- Address gap in biologics drug discovery in Australian medical research
- Develop Australian workforce expertise and career opportunities



## Gene Therapy Technologies



#### **Research Institute**



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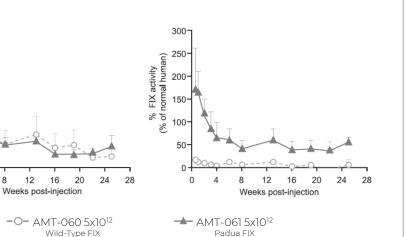
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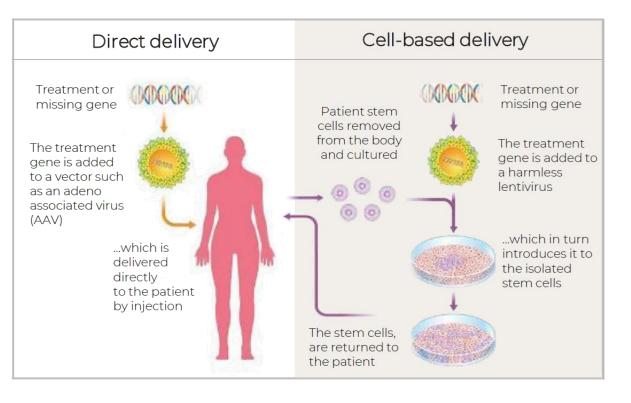
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### EtranaDez (Etranacogene dezaparvovec)

Enhanced Factor IX Activity following Administration of AAV5-R338L "Padua" Factor IX in NHPs





#### Gene Therapies for Immune Deficiencies

Source: Spronck, E.A. et al., (2019) Mol. Ther. Meth. Clin. Dev. 13; P334-343.

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## Gene Therapy for Immune Deficiencies



#### Agreement with Seattle Children's Research Institute (SCRI) signed March 2020 (extended in April 2021 for Gene Editing)

- Preclinical expertise in lentiviral and gene-editing-based PID gene therapy (GT)
- Extensive clinical experience in ex vivo GT (>400 patients treated with CAR-T)
- Access to PID patients and patient samples

#### Platform

*Ex Vivo* HSC Gene Therapy Platform

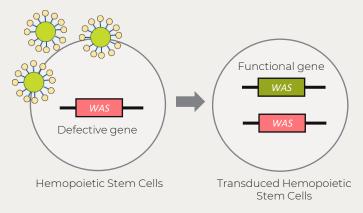
#### Technologies

Lentiviral Gene Therapy Other Gene Editing Approaches

#### PIDs

Wiskott- Aldrich Syndrome (WAS) X-linked Agammaglobulinemia (XLA) X-linked hyper IgM Syndrome (XHIM)

#### Lentiviral-Based Gene Therapy



Abbreviations: PID – Primary Immune Deficiency; HSC – Hematopoietic Stem Cell

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## Gene Therapy for Immune Deficiencies



### WAS Gene Therapy Program

- Mutation in gene that produces WAS protein (WASp)
- Incidence one in 100,000 male births per year (100-300pts/yr)
- Bleeding, eczema, and recurrent infections

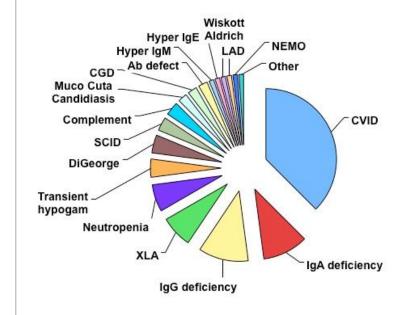
7SK shRNA Promoter hWASp Gene



Phase I/II – expected to commence H1 FY23

Source: Icahn School of Medicine at Mt Sinai Abbreviations: WAS – Wiskott- Aldrich Syndrome

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Primary Immune Deficiencies\*



## Biotech Out-Licensing & Partnering

## ASLAN Pharmaceuticals - Atopic Dermatitis



- In May 2019, CSL granted ASLAN full global rights to develop, manufacture and commercialise ASLAN004 (formerly CSL334) in all indications. CSL receives milestones and royalties
- ASLAN004 is a novel, first-in-class monoclonal antibody that targets the IL-13 receptor αl subunit (IL-13Rαl), one of the components of Type 2 IL-4 / IL-13 receptor
- By blocking Type 2 receptors, ASLAN004 prevents signalling of both IL-4 and IL-13, key drivers of inflammation and central to triggering symptoms of allergy in atopic dermatitis
- Dupilumab / Dupixent targets Type I and Type II receptors to block both IL-4 and IL-13 activity rate of dupilumab-associated ocular surface disease was 32%<sup>1</sup>

Program & Target	Discovery	Preclinical	Phase I	Phase II	Anticipated Milestones
ASLAN004 Anti-IL-13Rα1	Atopic Dermat	Atopic Dermatitis (AD)			
	Asthma*				Initiate Phase IIb - 4Q 2021

\*second indication to be confirmed

Popiela, M.Z. et al., (2021) Eye; https://doi.org/10.1038/s41433-020-01379-9

## ASLAN Pharmaceuticals - Atopic Dermatitis



#### Phase I MAD Study (ASLAN004)

- Moderate-to-severe atopic dermatitis patients (n=50)
- 200mg, 400mg and 600mg weekly
- ASLAN004 n=6, placebo n=2 per cohort
- Expansion cohort 600mg weekly, ASLAN004 n<u>></u>18, placebo n<u>></u>9
- Primary endpoint safety and tolerability
- Secondary end point clinical efficacy as measured by % change in Eczema Area Severity Index (EASI)

	Phase II	- initiating 4Q 2021
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	RITT (n=29)			
Endpoint (8 weeks)	600mg (n=16)	Placebo (n=13)	p-value <sup>1</sup>	
Mean % change from baseline in EASI	-64.9	-27.2	0.021	
EASI-50 (%)	81.3	30.8	0.008	
EASI-75 (%)	68.8	15.4	0.005	
EASI-90 (%)	37.5	15.4	0.183	
IGA 0/1 (%)	43.8	15.4	0.107	
Mean % change from baseline in peak pruritus Numerical Rating Scale	-38.6	-15.3	0.051	
Mean change from baseline in POEM	-9.8	-2.5	0.007	

• Proportion of patients with adverse events and treatment-related adverse events were similar across treatment and placebo arms

• No incidences of conjunctivitis in expansion cohort

<sup>1</sup> One-sided p-value. Study powered to assess statistical significance in primary efficacy endpoint at one-sided 5% level. Abbreviations: MAD – Multiple Ascending Dose; IGA – Investigator's Global Assessment; POEM – Patient-Oriented Eczema Measure; RITT – Revised Intent to Treat

## Kiniksa - Giant Cell Arteritis (GCA) and COVID



- In Dec 2017, AstraZeneca / CSL granted Kiniksa full global rights to develop, manufacture and commercialise Mavrilimumab in all indications. CSL receives milestones and royalties
- Mavrilimumab targets GM-CSF receptor and inhibits action of GM-CSF, a key mediator in inflammation and autoimmune disease
- Positive data reported from Phase II trial of Mavrilimumab in GCA, a chronic inflammatory disease of medium-large arteries (75,000-150,000 cases estimated in US)
- Reduced need for mechanical ventilation and improved survival reported for Mavrilimumab (compared to placebo) in Phase II portion of Phase II/III clinical trial in patients with COVID-19-related ARDS; enrolment ongoing<sup>1</sup>

Program & Target	Preclinical	Phase I	Phase II	Phase III		
<b>Mavrilimumab</b> Anti-GM-CSFRα	COVID-19 Pneumonia & Hyperinflammation					
	Giant Cell Arteritis					

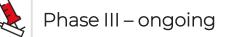
<sup>1</sup> Pupim, L. *et al.,* (2021) *Ann. Rheum Dis* 80(1); 198-199. Abbreviations: ARDS – Acute Respiratory Disease Syndrome

## Kiniksa - Giant Cell Arteritis (GCA) and COVID



### Phase II Study - GCA

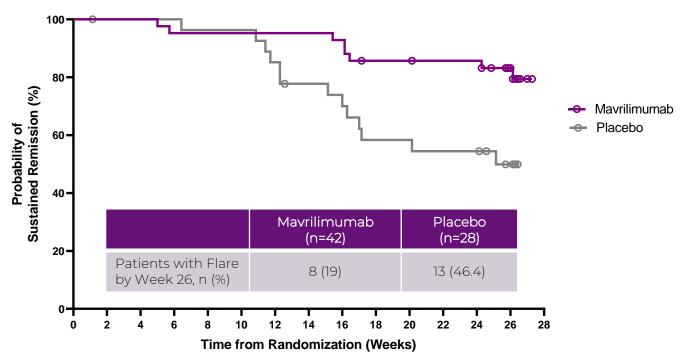
- Active biopsy- or imaging-proven new onset or relapsed refractory GCA
- n=70; 35 NO and 35 R/R
- 150mg q2wk for 26 wks, Mavri:placebo 3:2
- 26 week steroid taper
- Primary endpoint time to first adjudicated flare
- Secondary endpoint sustained remission through week 26



<sup>1</sup> Cid, M.C. et al., (2021) Ann. Rheum Dis 80(1); 31-32 Abbreviations: NO – New Onset; R/R – Relapsing/ Refractory; q2wk – every 2 weeks

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Mavrilimumab reduces risk of flare and increases sustained remission in patients with GCA<sup>1</sup>



## CSL Behring Research

Creating and progressing a sustainable portfolio of early stage opportunities

- Continuing to innovate in areas of business strength
- Developing new opportunities in areas of unmet need

Three drug discovery platforms applied across five TAs

• Leveraging in-house technologies to support external innovation

Expanding capacity and capability across global Research sites

Continued investment in external innovation

• From venture capital investment to long term strategic collaborations



## Development

### Deirdre BeVard

Senior Vice President, R&D Strategic Operations

CSL Behring





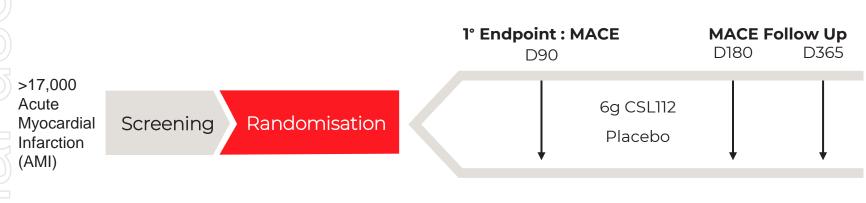
## CSL112 Apolipoprotein A-I (human) - AEGIS-II

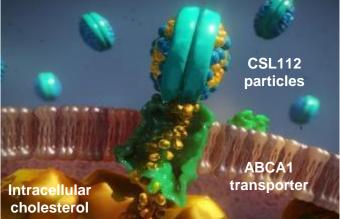


Cardiovascula and Metabolic

- Managing recruitment through COVID-19 impact on sites and patients
- 2<sup>nd</sup> futility analysis in 2021 passed
- 3<sup>rd</sup> interim analysis end FY22

Phase III - ongoing





### Gene Therapy (AAV5-Padua FIX) for Treatment of Haemophilia B



- CSL acquired exclusive global rights to commercialise EtranaDez from uniQure in May 2021
- Clinical program includes:
  - Phase IIb study: Open-label, single-dose, single-arm trial, using Padua FIX, in adult males with severe or moderately severe Haemophilia B (HB)
  - Phase III HOPE-B study: Open-label, single-dose, single-arm, trial in adult males with severe or moderately severe HB (FIX ≤ 2%) on routine FIX prophylaxis and with/without pre-existing neutralizing antibodies (nAbs) to AAV5
  - BLA/MAA submissions H2 FY22

Abbreviations: AAV5 - Adeno-Associated Virus serotype 5; BLA – Biologic Licence Application; MAA – Market Authorisation Application

## EtranaDez – HOPE-B Study 12 Month Data

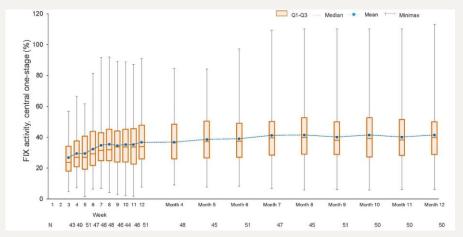


## FIX activity increased rapidly to mid- to normal range with mean of 41.5 IU/dL (±21.7; 5.9, 113.0) at Wk 52<sup>1</sup>

- FIX activity similar (~44%) in participants with and without pre-existing nAbs to AAV5<sup>1</sup>
- 96% of patients discontinued prophylaxis<sup>1</sup>
- Mean FIX activity Ph IIb patients stable and durable at 2.5 years<sup>2</sup>
- Phase III preliminary data translates into meaningful clinical response with reduction in Annualised Bleeding Rates (ABR)
- Majority of patients did not report any bleeding during 52 weeks after dosing<sup>1</sup>

Pipe. S.W. *et al.*, (2021) ISTH, PB0653
 Gomez, E. *et al.*, (2021) ISTH, LPB0020
 Abbreviations: AAV5 - Adeno-Associated Virus serotype 5

#### Endogenous FIX Activity over 52 weeks<sup>1</sup>



#### Adjusted Annualized Bleeding Rates (ABR) in the First 12 months Post-treatment<sup>1</sup>

All subjects (N=54)	Lead-in ABR	Year 0-1 ABR	Ratio (% Reduction)	P-value
All bleeds <sup>a</sup>	3.98	1.33	0.34 (66.6)	p<0.0001
All bleeds treated with FIX	3.39	0.68	0.20 (80.0)	p<0.0001
Spontaneous bleeds treated with FIX	1.16	0.18	0.15 (84.5)	p<0.0001
Traumatic bleeds treated with FIX	1.75	0.30	0.17 (82.9)	p<0.0001
Joint bleeds treated with FIX	1.92	0.30	0.16 (84.4)	p<0.0001

## Ongoing New Investigations with Hizentra®



### Systemic Sclerosis (SSc)

A rare, heterogeneous, multi-systemic, progressive autoimmune disease with significant morbidity

- Incidence: 0.8 5.6 per 100,000<sup>1</sup>
- Prevalence rate: 3.8 34.1 per 100,000<sup>1</sup>
- 3-4 times more common in females than males<sup>2</sup>

Presents with hardening of skin, inflammation and scarring of internal organs, endothelial injury leading to microangiopathy and dysregulation of autoimmunity

Highest mortality among systemic autoimmune diseases No treatment currently addresses all of the multi-system impact

<sup>1</sup> Varga, J. (2020) In J.S. Axford (Ed.), *UptoDate*, Accessed June 1, 2021.
 <sup>2</sup> National Organization for Rare Diseases. Scleroderma. Accessed June 4, 2021.
 <sup>3</sup> Svensson J. (2017) *Clin Exp Rheumatol*. 35(3):512-515

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### Dermatomyositis (DM)

A severe inflammatory autoimmune disease that leads to muscle weakness and skin changes with high comorbidity

- Incidence 11 per 1,000,000
- Prevalence rate 14 per 100,000
- Increases with age (peak ages 70-79)<sup>3</sup>

The disease can also affect other organs such as lungs, heart and the esophagus and in general is associated with a higher rate of malignancy (cancer)

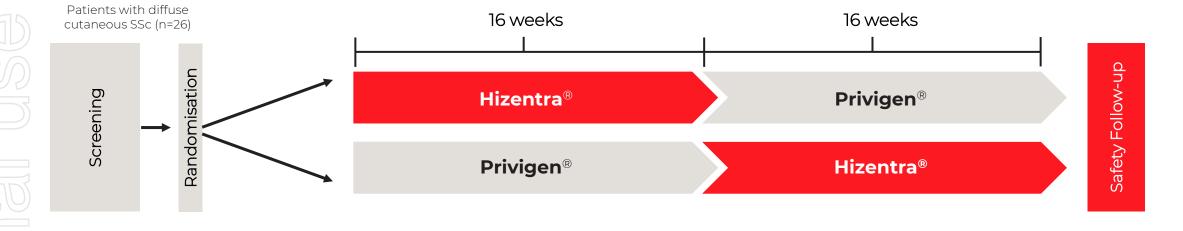
Mortality rate: 10-30% (5y), high comorbidity High unmet need for long-term treatments without systemic side effects

Phase II – ongoing

## Hizentra<sup>®</sup> SSc - SURPASS

Phase II Safety and Bioavailability Study of Hizentra<sup>®</sup> in Adults with Systemic Sclerosis (SSc)

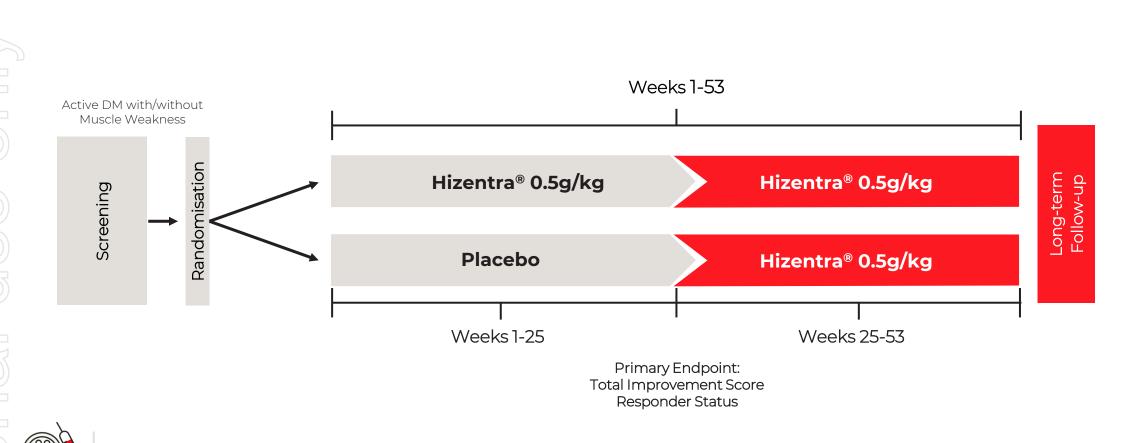
- Study fully enrolled ahead of schedule
- Anticipated study completion 2022





# Hizentra<sup>®</sup> DM - RECLAIIM

Phase III Study of Hizentra<sup>®</sup> in Adults with Dermatomyositis



Phase III – ongoing

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Immunology

# Hereditary Angioedema (HAE)



Autosomal dominant genetic condition 1 in 10,000 – 50,000 people

Unregulated protein cascade

- $\rightarrow$  elevated levels of bradykinin
- $\rightarrow$  fluid release into tissues
- $\rightarrow$  swelling in specific parts of body

Unpredictable onset, severity and attack location, lasts for 2-5 days





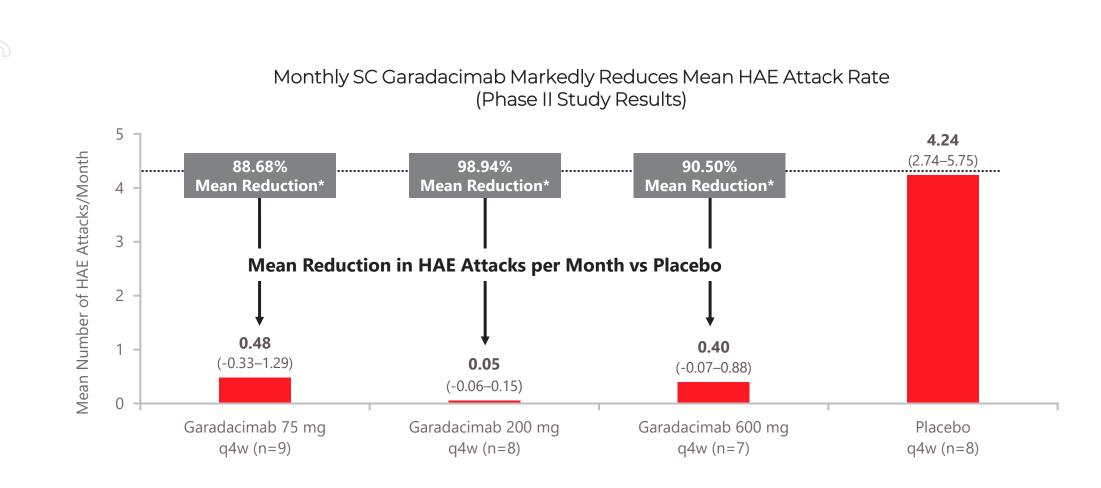
Normal appearance

During cutaneous attack



Immunology

## Garadacimab – A First-in-Class, Fully Human mAb that Inhibits FXIIa to Treat HAE



Source: Craig, T., (2020) European Academy of Allergy and Clinical Immunology Congress

#### Garadacimab - CSL's First mAb in Phase III Immunology Phase III Phase I Efficacy, Safety, PK/PD Phase II Safety, PK Double-blind, Placebo-controlled Efficacy, Safety, PK/PD 3 doses & Phase III placebo tested Phase I Safety Extension Safety, PK Including Phase II, Phase III & Naive Patients Completed Completed Ongoing Ongoing Healthy ~40 HAE patients ~60 HAE patients ~150 HAE patients Broad dose range POC Pivotal, Confirmatory Long term safety

IV & SC



Dose selection.

Safety, PK/PD

Efficacy, Safety,

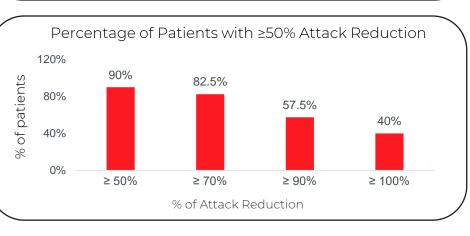
PK/PD, QoL

Efficacy, PK/PD, QoL

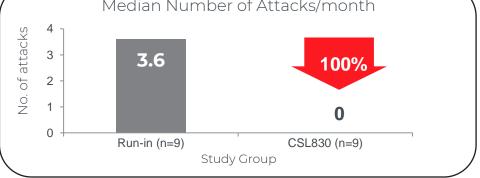
# Comparable Efficacy of HAEGARDA<sup>®</sup> for HAE in Japanese Patients

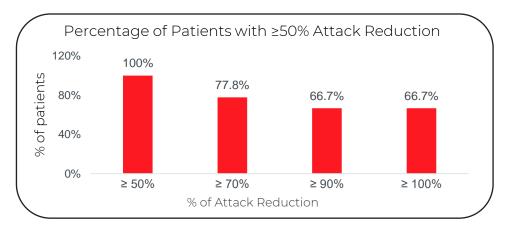


# Global Phase III Pivotal Study Median Number of Attacks/month



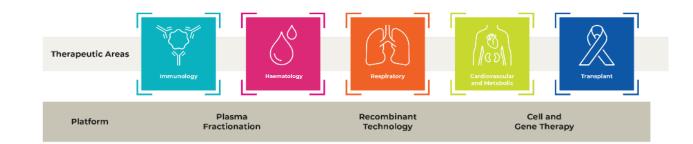
#### Japan Phase III Study Median Number of Attacks/month





# Progress Across All of our TAs and Scientific Platforms

- Our scientists continue to grow our pipeline through internal discovery and external collaborations
- Our focus drives continued progress in the Phase II and Phase III portfolio
- Our innovation in other novel mAbs CSL324, CSL311, CSL346 and Clazakizumab and other novel plasma proteins CSL889 (Hemopexin) and CSL787 (Nebulised Ig) continues to progress well
- Our patient focus leads to optimisation and expansion of Established Products with new indications and markets



#### CSL R&D - Together We Deliver on our Promise to Patients



# Commercial



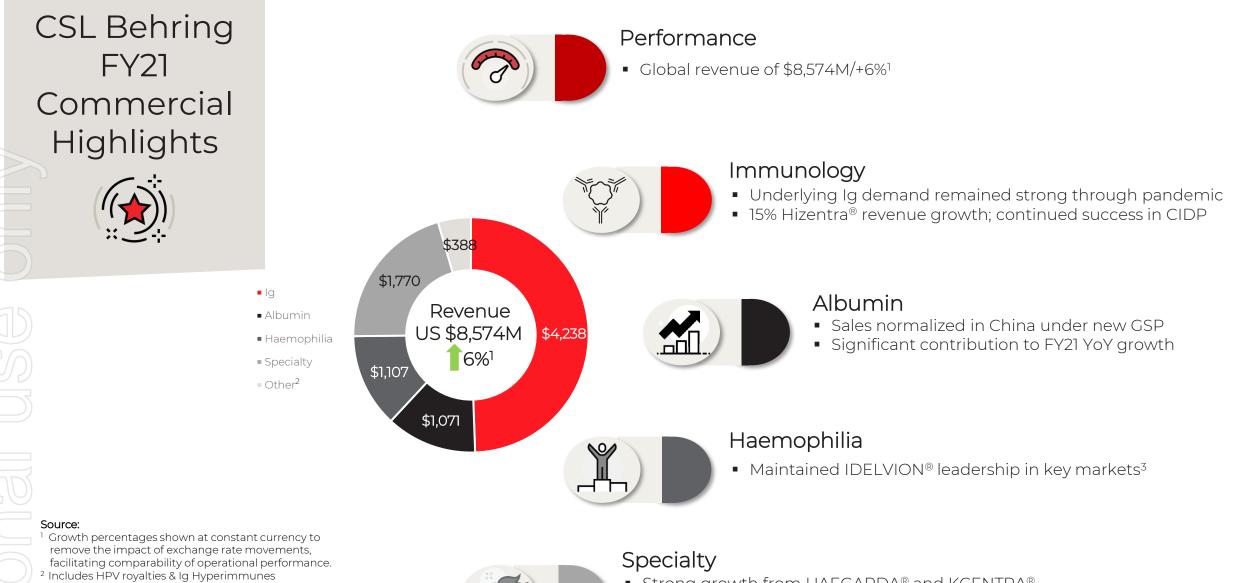
#### Bill Campbell

Executive Vice President and Chief Commercial Officer

CSL Behring

Zahra: living with Hereditary Angioedema (HAE).

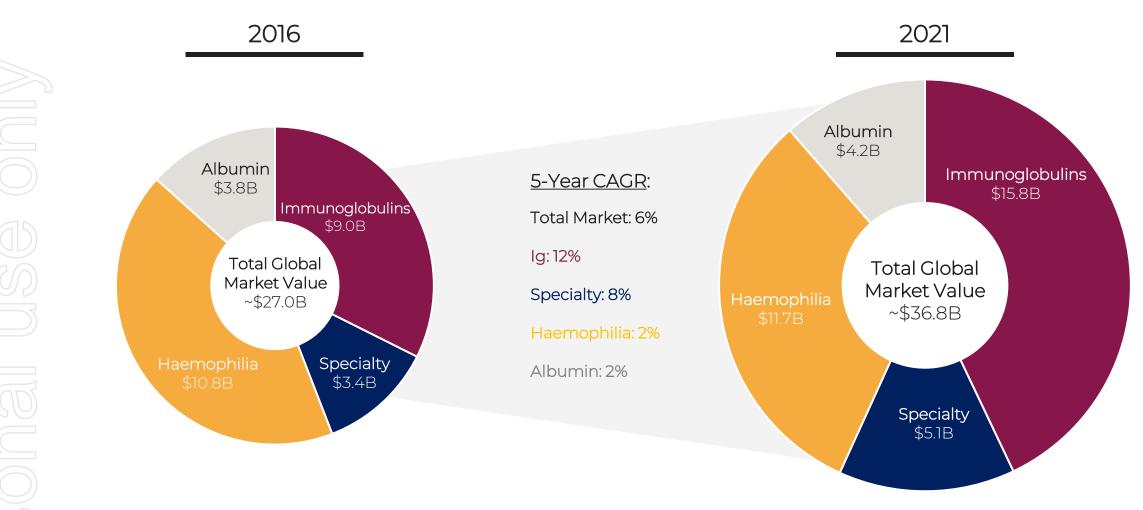




<sup>3</sup> Data on file Abbreviations: CIDP - Chronic inflammatory demyelinating polyneuropathy; FFP - Fresh Frozen Plasma; GSP – Good Supply Practices; YoY – Year on Year

- Strong growth from HAEGARDA® and KCENTRA®
- HAEGARDA<sup>®</sup> most patients since launch; 14% revenue growth
- KCENTRA<sup>®</sup> continued penetration vs FFP

## Targeted Protein Therapeutic Market Continues to Grow



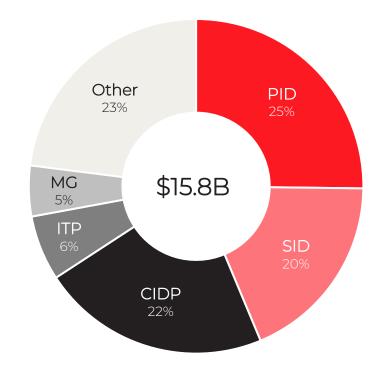
**Source:** Company 3Q 2016 reports/financial schedule; MRB global Coagulation Factors Concentrate Market 2015 & 201; MRB WW Plasma Fractionation Market 2015 interim report; CSL Actuals FY16 **Source:** Analyst Reports; Company Annual Reports; Data on file; CSL Actuals FY21; Immunoglobulins market include Hyperimmunes; Haemophilia market include Factor XIII and non-factor; Specialty includes AAT, HAE, Fibrinogen, PCC, ATT markets

# Immunoglobulin Market

#### Market Dynamics

- COVID-19: Industry-wide impact on plasma collection
- Underlying demand remains strong
  - Significant patient needs in PID & CIDP
  - Expanding usage for SID
- Shifting preference to SCIg and home administration

#### Global Ig Volume by Indication



Source: Data on file for 2020

Abbreviations: CIDP - Chronic inflammatory demyelinating polyneuropathy; ITP - Idiopathic thrombocytopenic purpura; MG – Myasthenia Gravis; PID – Primary Immune Deficiency; SID –Secondary Immune Deficiency

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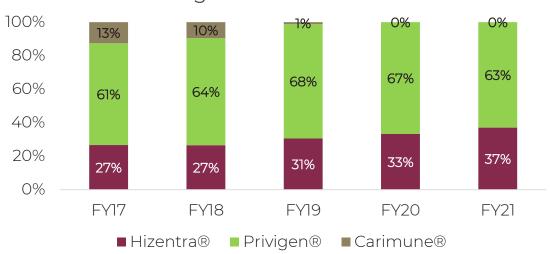


#### Hizentra Immune Globulin Subcutaneous (Human) 20% Liquid

- Hizentra<sup>®</sup> +15% revenue growth<sup>2</sup>; remains the clear SCIg market leader
- Increased preference for at-home treatment
- Continued uptake in CIDP
- Recent Medicare Part B reimbursement approval



- Supply tightness intensified by COVID-19
- Privigen<sup>®</sup> volume impacted by shift to Hizentra<sup>®</sup>
- Global demand remains strong in core indications



#### US Ig Volume Mix Evolution<sup>3</sup>

## Immunoglobulins

FY21 Sales: \$4,238M<sup>1</sup>

Up 3%<sup>2</sup>

#### Christal: living with chronic inflammatory demyelinating polyneuropathy (CIDP)

<sup>1</sup> Excludes Ig hyperimmunes

 <sup>2</sup> Growth percentages shown at constant currency to remove the impact of exchange rate movements, facilitating comparability of operational performance.
 <sup>3</sup> CSL Internal Data

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#### Immune Globulin Subcutaneous (Human) 20% Liquid

# Need more flexibility/time 39% Having problem finding a vein 30% Impossibility of getting to the infusion center due to COVID-19 26% Difficulty getting to IV infusion centers 22%

**Reasons for IVIg to Hizentra® Switch1** 

Covid has impacted thinking - "At this point, after seeing what has happened ..., we really need to try to transition these patients to something that's going to be more manageable if there's ever something like this again." - Lisa, Neurologist



- #1 Ig used worldwide for PID<sup>1</sup> and the only SCIg approved for use in CIDP
- Proven long-term protection with over 3.5 years of clinical evidence and 10+ years of real-world experience
- Continue to lead within SCIg as we bring more innovative and personalized treatment options to patients

# Hizentra<sup>®</sup> - Continued Strong Performance Robust SCIg Market Growth of 13.1% During Same Period



61%

Q4 20

---- Competitor E

61%

Q2 20

60%

Q3 20

60%

Q1 20

60%

Q3 19

60%

Q4 19

61%

Q1 21

60%

Q2 21

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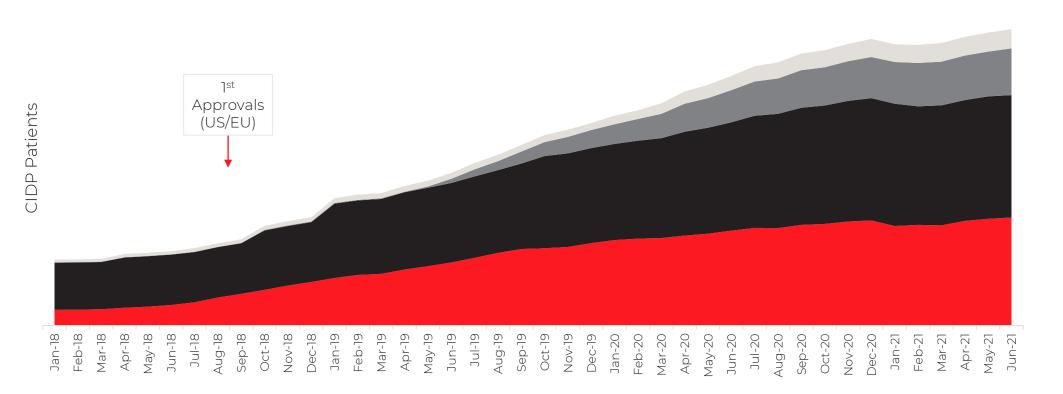
80% Share of SCIg Market (Volume) Total 7MM 70% 61% 60% 59% 58% 57% 57% 60% 50% 40% 30% 20% 10% 0% Q1 18 Q2 18 Q3 18 Q4 18 Q1 19 Q2 19 Hizentra<sup>®</sup>(CSLB) -Competitor A ----- Competitor B Source: Data on file 7MM refers to US, DE, FR, IT, UK, ES & JP 49 Driven by Our Promise™

# CIDP Patients Benefitting From Hizentra® Across the Globe



Total Hizentra<sup>®</sup> CIDP Patients by Region<sup>1,2</sup>

■NA ■EU ■APAC ■ICO



<sup>1</sup> Countries Included – JP, AT, IT, NL, SK, UK, IS, CH, US, GER, GR, DE.
<sup>2</sup> Data on file





#### **IDELVION®**

• Standard of care for Haemophilia B

Antihemophilic Factor (Recombinant), Single Chain



#### **AFSTYLA®**

Impacted by competitive market & reduced doctor visits during COVID-19

#### pdFVIII

 Maintained market leadership globally in vWD with 56% patient share<sup>2,3</sup>

#### **HUMATE<sup>®</sup>**

 Strong revenue growth of 13%<sup>1</sup> in the US

#### Haemophilia

#### FY21 Sales: \$1,107M

Down 4%<sup>1</sup>

#### Logan: living with Haemophilia B.

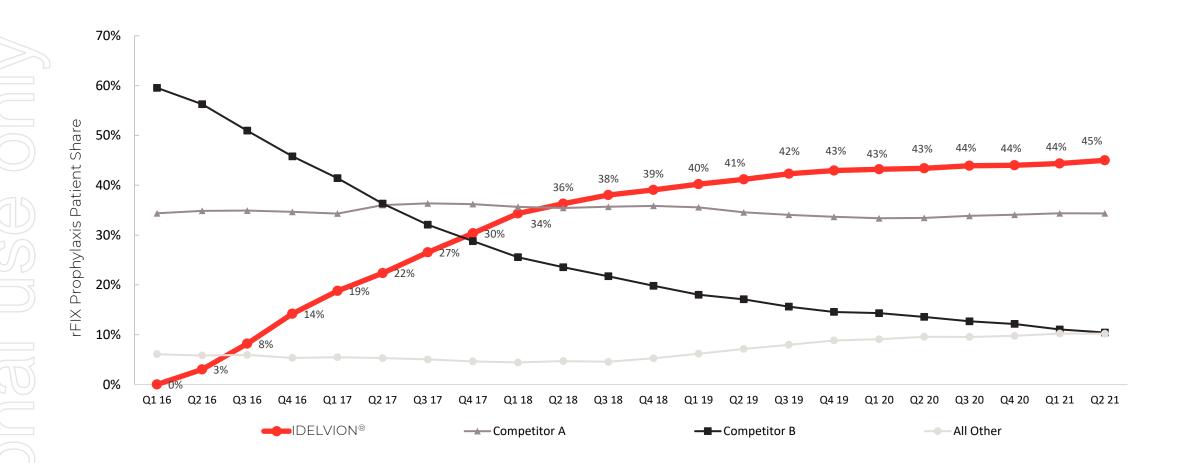
 <sup>1</sup> Growth percentages shown at constant currency to remove the impact of exchange rate movements, facilitating comparability of operational performance.
 <sup>2</sup> Data on file
 <sup>3</sup> Includes HUMATE<sup>®</sup>/HAEMATE<sup>®</sup> and VONCENTO<sup>®</sup>
 Abbreviations: vWD – von Willebrand Disease

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- Maintained leadership<sup>2</sup> in several key markets, including US, Germany, Italy, Switzerland & Japan
- Recent strong launches in France, Spain and Taiwan

# IDELVION<sup>®</sup> - Maintaining Market Leadership





Based on data from US, JP, DE, IT, ES, CH and UK where IDELVION® is reimbursed and commercially available. **Source:** Data on file

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# IDELVION<sup>®</sup> - Market Shares Within Key Markets

Q2-18

Q3-18

Q4-18

Q1-19

Q2-19

Q3-19

Q4-19

Q1-20

Q2-20

Q3-20

Q4-20

Q1-21

Q2-21



62%

61%

- 57% - 45%

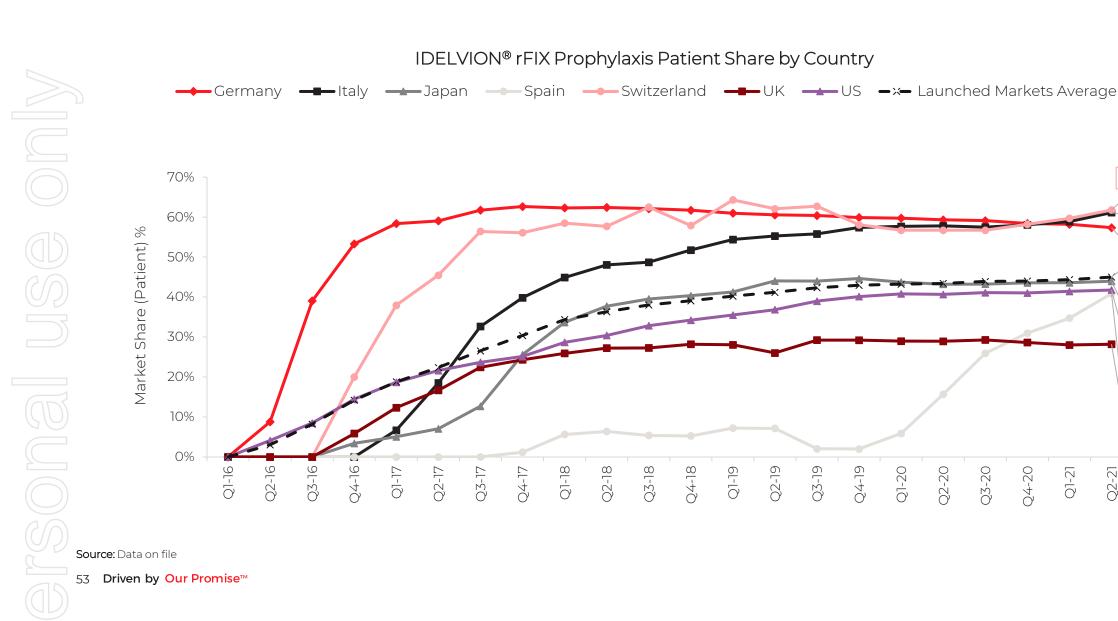
44%

42%

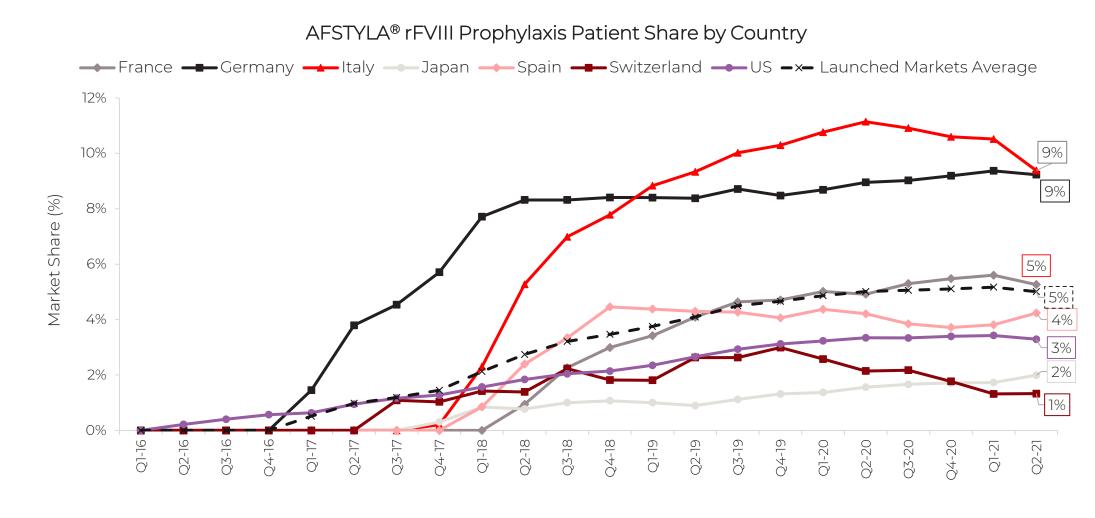
41%

28%

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# AFSTYLA<sup>®</sup> - Market Shares Within Key Markets



Source: Data on file

#### 1970 First patients ever receive gene therapy

1999 First trial using AAV vectors for gene therapy in hem B\*

2003

First gene

therapy

approved

for cancer

2015 & 2018 Clinical trials begin for gene therapy in hem B

# EVERY STEP HAS BEEN LEADING TO THE NEXT BREAKTHROUGH FOR HEMOPHILIA B



#### **Specialty Products**

#### FY21 Sales: \$1,770M

Up 2%<sup>1</sup>

#### Cheryl: living with Hereditary Angioedema (HAE).

<sup>1</sup> Growth percentages shown at constant currency to remove the impact of exchange rate movements, facilitating comparability of operational performance.
<sup>2</sup> Data on file

<sup>3</sup> In the clinical trial, 95% median reduction in number of attacks in patients receiving 60 IU/kg of HAEGARDA® vs placebo, and a >99% median reduction in rescue medication use in patients receiving 60 IU/kg of HAEGARDA® vs placebo.  Substantial growth opportunities, with FFP still used in ~40% of patients<sup>2</sup> in the US

Remains the gold standard for

warfarin reversal in the US

**Kcentra**<sup>®</sup>

Prothrombin Complex Concentrate (Human)

**KCENTRA®** 

Demand rebounded to pre-COVID levels in the US



#### HAEGARDA<sup>®</sup>/Berinert SC<sup>®</sup>

- Offers best in class efficacy<sup>3</sup>
- US: Most patients since launch
- Treatment paradigm further shifts from on-demand to longterm prophylaxis

#### Respreeza®/Zemaira®

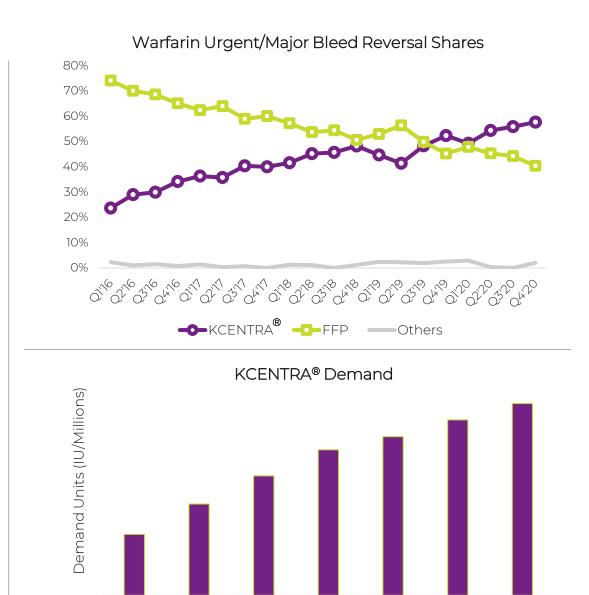
 Investing to enhance supply chain & ensure future supply



# KCENTRA® Growth in US

- KCENTRA<sup>®</sup> remains first and only FDA approved 4F-PCC for reversing patients on warfarin
- KCENTRA® is supported by multiple clinical guidelines as the preferred reversal agent<sup>1</sup>
- ~1.7M patients on warfarin, with ~25k new patient starts per month<sup>2</sup>
- KCENTRA® growth driven by:
- Superior efficacy data versus fresh frozen plasma
- Penetration within existing large hospital systems
- Innovative digital promotion and education programs

<sup>1</sup> Neurocritical Care Society; Society of Critical Care Medicine; American College of Cardiology; American College of Chest Physicians; American Society of Gastrointestinal Endoscopy; American College of Surgeons
 <sup>2</sup> Data on file – represents US market only



FM9

=Y20

8

FM5

=√16

FY17

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# HAEGARDA<sup>®</sup> /Berinert<sup>®</sup> SC Growth in the Face of Competition



#### **Regional Progress** US: Most patients since launch EU/AU: New launches exceeding expectations Spain achieved 55% patient share<sup>1,2</sup> within a year of launch Five additional launches planned by end of 2022

Q3 17 Q4 17 Q1 18 Q2 18 Q3 18 Q4 18 Q1 19 Q2 19 Q3 19 Q4 19 Q1 20 Q2 20 Q3 20 Q4 20 Q1 21 Q2 21 —HAEGARDA<sup>®</sup>/Berinert<sup>®</sup> SC Patients<sup>1</sup>

Data on file
 Patient share in the non-steroidal prophylaxis segment

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Global Patients

# HAEGARDA<sup>®</sup> /Berinert<sup>®</sup> SC Growth Potential





HAE Market Share (Patients) by Regimen <sup>1</sup>												
■ On-Demand ■ Prophylaxis												
	00%	%		<u> </u>								
מרובווה) 20	80%	27%		29%		34%		39%				
י ו	60%											
ער י	40%	73%		Л%		66%		61%				
	20%											
	0 70	2017		2018		2019		2020				

Prophylaxis segment continues to grow but ~60% of patients still on acute therapy

 HAEGARDA<sup>®</sup> /Berinert<sup>®</sup> SC has proven record of high efficacy and safety<sup>2</sup>

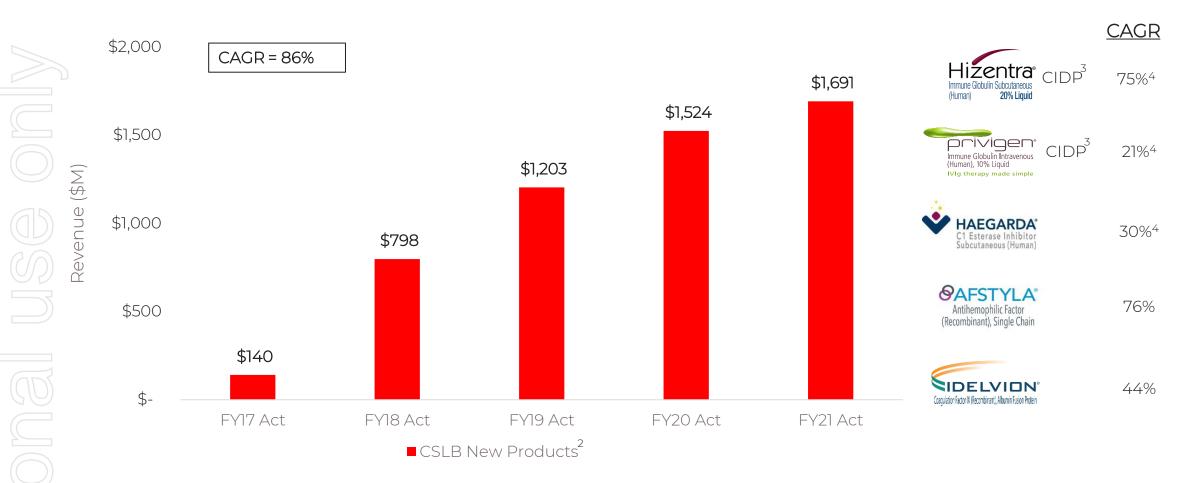
 Continue to see patients switch back from competing products to the benefits of HAEGARDA<sup>®</sup> /Berinert<sup>®</sup> SC<sup>1</sup>

# *Efficacy ultimately drives patient preference*. Patients define convenience as being free from attacks, not just frequency and ease of administration<sup>3</sup>. Prophylaxis treatment with *HAEGARDA®* /Berinert® SC addresses this need.

<sup>1</sup> Data on file – Represents US, DE & ES. Includes all HAE markets, split on long term prophylaxis vs. on-demand
 <sup>2</sup> In the clinical trial, 95% median reduction in number of attacks in patients receiving 60 IU/kg of HAEGARDA® vs placebo, and a >99% median reduction in rescue medication use in patients receiving 60 IU/kg of HAEGARDA® vs placebo.
 <sup>3</sup> Per 2020 Harris Poll



# New Products Contributing Significantly to Growth<sup>1</sup>



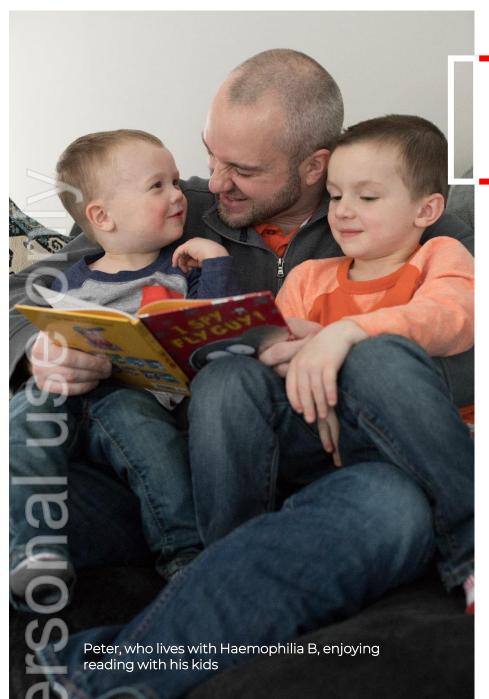
<sup>1</sup> Revenues shown at constant currency to remove the impact of exchange rate movements, facilitating comparability of operational performance.

<sup>2</sup> CSLB New Products include Hizentra® CIDP, Privigen® CIDP, HAEGARDA®/Berinert® SC, AFSTYLA® & IDELVION®

 $^{\rm 3}\,$  CIDP revenue represents markets where the indication was recently acquired

<sup>4</sup> CAGR calculated off base of FY18 when launch occurred

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#### **Commercial Summary**



Executing on strategies



Strong underlying demand across the portfolio



COVID restrained commercial activity



New products contributing significantly to growth



Balanced regional & key market growth



Robust new product pipeline to fuel growth

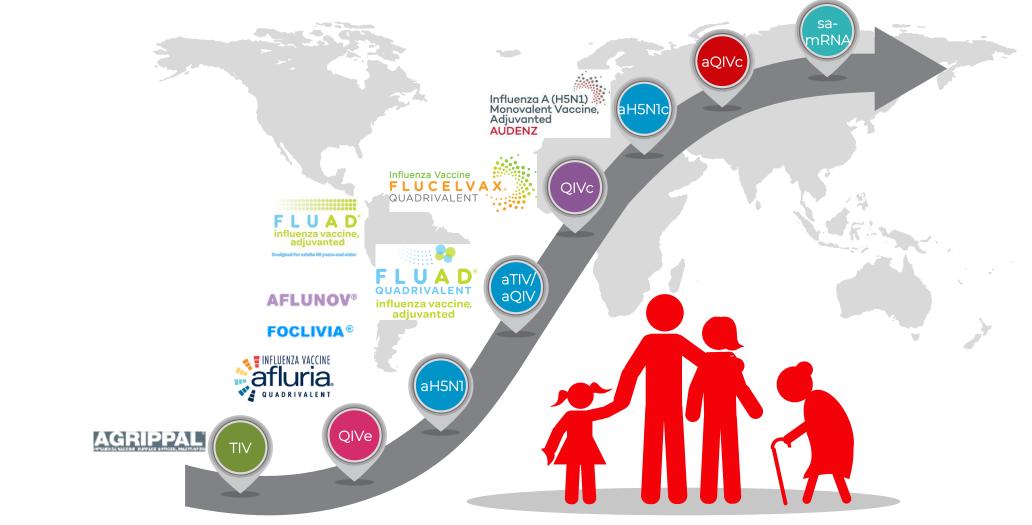
# USe on ona 62 Driven by Our Promise<sup>™</sup>

SEQIRUS Russell Basser MD Senior Vice President, R&D Ethan Settembre PhD Vice President, Research



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## Population Protection Through Innovation



# Seqirus Milestones in FY21 & FY22 (to date)

#### FLUCELVAX<sup>®</sup> QUAD

- Paediatric efficacy study (2-17yrs) published in New England Journal of Medicine - 14 Oct 2021
- US 6mo+ age extension approval
- Regulatory approvals 2yr+ in US/EU/UK/CA, 9yr+ in AU (5 further regulatory approval submissions)
- Paediatric immunogenicity (6mo-4yr) met all endpoints

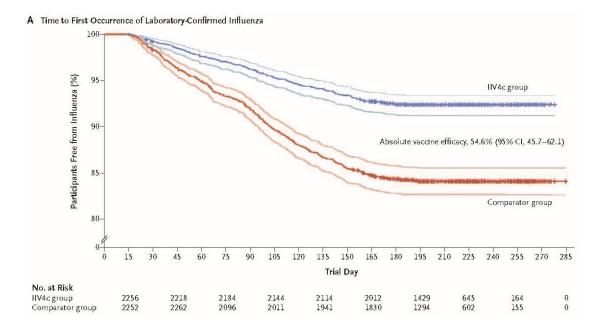
#### FLUAD<sup>®</sup> QUAD

UK, NZ approval for 65yrs+ (2 further regulatory approval submissions)

#### aQIVc

- Phase II clinical trial standard dose completed
- Phase II clinical trial dose ranging study completed recruitment





# New Cell Culture Facility in Australia

#### Tullamarine, Victoria

- Under construction open in 2026
- A\$800m capital investment from Seqirus
- Commercial export manufacturing facility
- Next-generation, cell-based seasonal influenza vaccines
- A\$800m/10 year supply agreement with Commonwealth for antivenoms, Q-fever vaccines, pandemic influenza vaccines



# Collaboration with BARDA

Biomedical Advanced Research and Development Authority

Agreement to develop and evaluate 2 influenza A virus (H2Nx) vaccine candidates to support pandemic preparedness

- 1. Adjuvanted (MF59<sup>®</sup>) and cell-based based technologies
- 2. Self-amplifying mRNA (sa-mRNA) platform

US\$35M multi-year contract extends to clinical proof of concept early trials

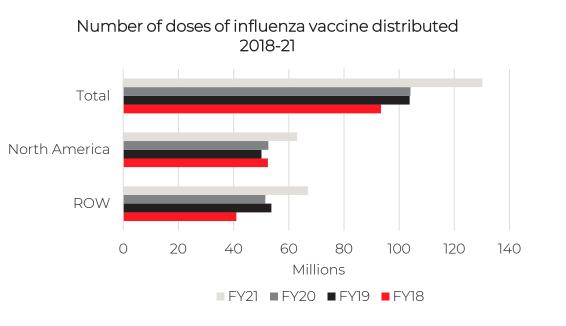


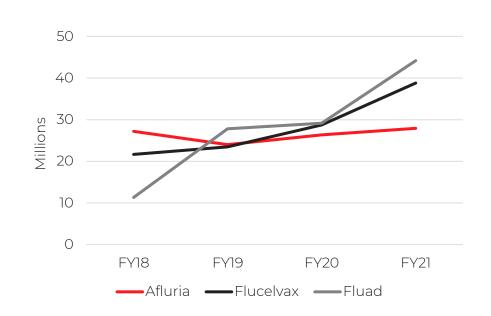
# Impact of COVID-19 on Influenza and Vaccination

Suppression of circulating influenza virus so far but ongoing concerns on potential of "twindemic"

- low level circulation
- bird and animal reservoirs remain

Strong demand for influenza vaccine – increased doses and differentiated products





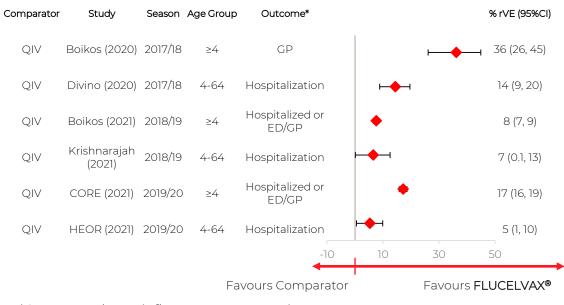
#### Real World Evidence – Consistent Benefit of MF59® Adjuvant and Cell Technology over Multiple Seasons

Fluad <sup>®</sup> (5 Strain) - Denent Or MF59 <sup>®</sup>											
Comparator	Study	Season	Outcome*								
	•		Hospitalized		⊢ <b>≜</b> ⊣		% rVE (95%CI)				
TIV	Boikos (2020)	2017/18	or ED/GP				8 (4, 10)				
TIV	Pelton (2020)	2017/18	Hospitalized or ED		⊢	-	11 (2, 19)				
TIV	Pelton (2020)	2017/18	GP		F		25 (17, 32)				
TIV	Boikos (2020)	2018/19	Hospitalized or ED/GP			<b>⊢_</b>	26 (18, 32)				
QIV	Boikos (2020)	2017/18	Hospitalized or ED/GP		H	Η	18 (16, 21)				
QIV	Pelton (2020)	2017/18	Hospitalized or ED		<b></b>		9 (1, 16)				
QIV	Pelton (2020)	2017/18	GP			⊢	<b>1</b> 36 (31, 41)				
QIV	Boikos (2020)	2018/19	Hospitalized or ED/GP			н	28 (26, 30)				
QIV	CORE 2021	2019/20	Hospitalized or ED/GP			⊢✦┥	28 (24, 31)				
HD-TIV	Boikos (2020)	2017/18	Hospitalized or ED/GP		<b>⊢♦</b> −1		8 (2, 13)				
HD-TIV	Pelton (2020)	2017/18	Hospitalized or ED	H -			3 (-3, 9)				
HD-TIV	Pelton (2020)	2017/18	GP		<b>⊢</b> →	<b>—</b> ]	17 (11, 22)				
HD-TIV	Boikos (2020)	2018/19	Hospitalized or ED/GP		⊢∳-1		7 (3, 11)				
HD-TIV	Pelton (2021)	2018/19	Hospitalized or ED		⊢∳-1		7 (3, 10)				
HD-TIV	Pelton (2021)	2018/19	GP	F	<b>•</b> -1		2 (-4, 7)				
HD-TIV	CORE 2021	2019/20	Hospitalized or ED/GP		<b>⊢</b> ∳⊣		14 (11, 17)				
HD-TIV	HEOR 2021	2019/20	Hospitalized or ED				3 (-3, 9)				
				-10	10	30	50				
		Fav	ours Compar	ator	Fa	vours <b>FLUAD</b> ®	0				

Fluad<sup>®</sup> (3 strain) – Renefit of ME59<sup>®</sup>

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#### Flucelvax<sup>®</sup> - Benefit of Cell Culture



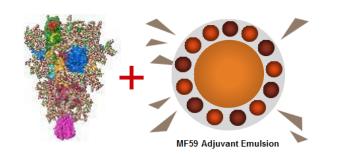
\*Outcomes due to influenza or pneumonia

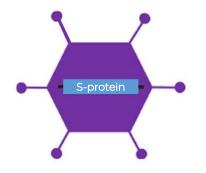
2017/18 was the first season a cell-based seed (H3N2) was included in FLUCELVAX®

Boikos, C. et al., (2020) CID 73:816-823 Pelton, S.I. et al., (2020) Vaccines 8:446 Pelton, S.I. et al., (2021) Vaccine 39:2396-2407 CORE (2021): Presented at ECCMID 2021, manuscript pending HEOR (2021): Manuscript pending Abbreviations: CI - Confidence Interval; ED - Emergency Department; GP - General Practitioner; (r)VE - (relative) Vaccine Effectiveness; TIV /QIV – standard dose Trivalent/ Ouadrivalent Vaccine; HD - High Dose



## CSL Strengths Applied to COVID-19





#### University of Queensland (V451) Recombinant S-clamp protein

MF59® adjuvant

Collaboration between UQ, CSL & AU Government Abandoned due to false positive HIV tests

#### AstraZeneca

(AZD1222) Recombinant replication competent vector that expresses S-protein

Manufacturing under contract to supply to AZ for AU

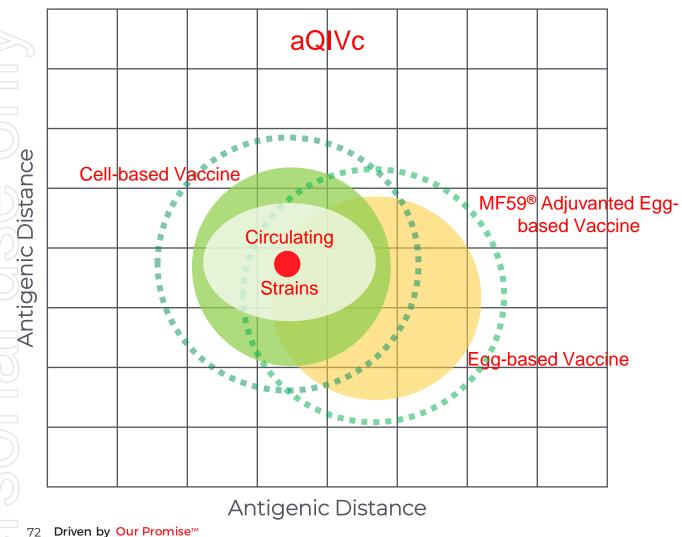
#### What to Expect from Next-Generation Influenza Vaccines aQIVc

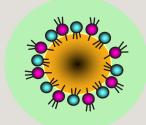
Self-amplifying mRNA

### Seqirus is Experienced in Protecting People from Seasonal Influenza Despite its Complicated Nature

	4 Influenza Subtypes co-circulate	Frequent Antigenic Drift	Pre-existing Immunity	Waning - Developing Immune System
10 <sup>1</sup>	Protein + Adjuvant			
			Self-amplifying mRNA	

#### Improving Influenza Vaccines by Combining Two Advanced Technologies





MF59<sup>®</sup> Adjuvant Increases "breadth" Increases antibody response Dose-sparing potential (pandemic)



Cell Culture Closer match to circulating strain More efficient manufacture than egg Greater flexibility – faster in pandemic

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#### Pulling Key Levers to Further Improve Protein-based Influenza Vaccines

180 160 140 120 AI GMTs 100 80 60 40 20 Source: Keitel, W. et al, (2006) Arch Intern Med 166: 1121-1127 73 Driven by Our Promise™

Higher Antigen Dose Drives Higher Immunogenicity Hemagglutination Inhibition Titers 125 86

control

15 ug

Вn

30

A/H3N2

Вn

00

50

30 ug

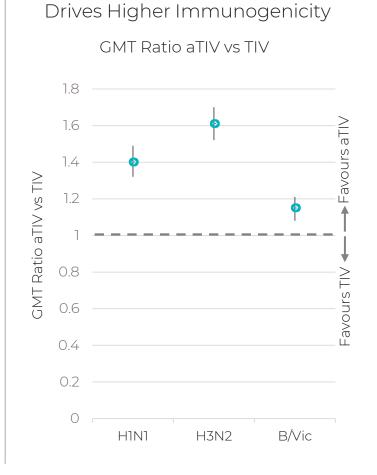
60 ug

23

control

15 ug

A/H1N1



MF59<sup>®</sup> Adjuvant

Unpublished data, Segirus

- Higher antigen dose drives  $\Lambda$ immune response
- MF59<sup>®</sup> drives  $\uparrow$  immune response
- aQIVc combines benefits of adjuvant, dose and cell-derived antigen to increased influenza protection

#### RNA-based Vaccines Have Shown Value in SARS-CoV-2 Pandemic

**CI** The Journal of Clinical Investigation

#### The mRNA vaccine revolution is the dividend from decades of basic science research

The Journal of Clinical Investigation 2021;131(19):e153721. https://doi.org/10.1172/JCl153721.

# Now proven against coronavirus, mRNA can do so much more

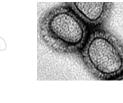
By Maggie Fox, CNN () Updated 3:41 PM ET, Tue June 1, 2021

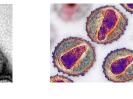


Vaccine research and development might never be the same again. **By Elie Dolgin** 

Nature | Vol 589 | 14 January 2021

### Segirus Has a Long Research History in Self-amplifying mRNA





Research on viral targets (RSV, CMV, Flu, HIV) with multiple partners



National Institute of Allergy and



H7N9 sa-mRNA vaccine made in 8 days from on-line sequence



H5N1 vaccine candidate generated



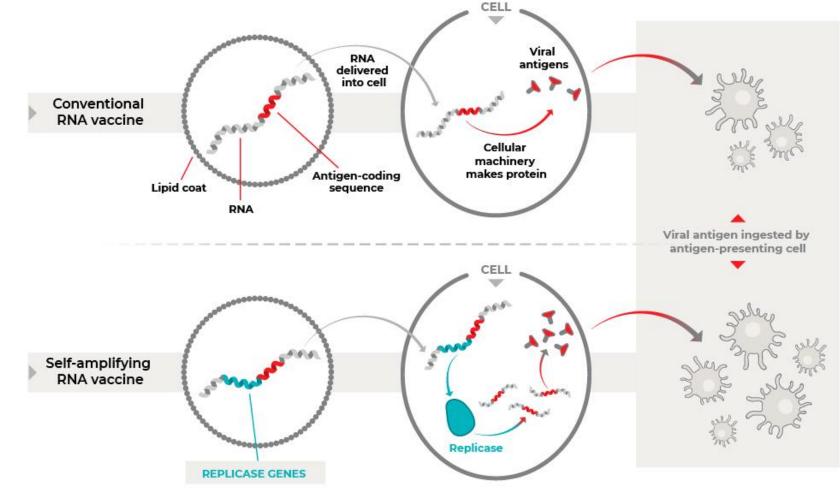
**COVID** vaccine candidate generated

CSL



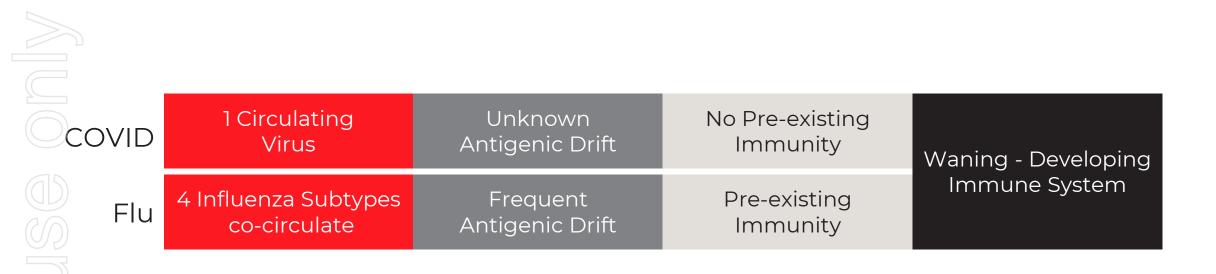
Abbreviations: CMV - Cytomegalovirus; HIV - Human Immunodeficiency Virus; RSV - Respiratory Syncytial Virus

#### mRNA Technology – Two Main Approaches Have Important Differences



Source: Adapted from Dolgin E. (2021) *Nature* 589(7841):189-191

### Seasonal Influenza Challenges Differ from SARS-CoV-2



Flu is more complicated; may expect efficacy lower than for SARS-CoV-2

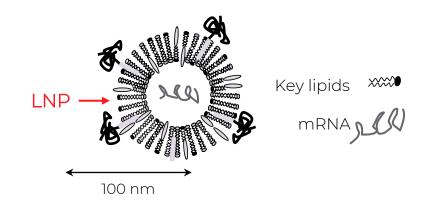
### sa-mRNA – Two Key Elements Drive Immune Responses

Sell-amplifying mikina payload						
<b>Monocistronic</b> = 1 gene of interest encoded by mRNA						
Replicon Genes	Gene of Interest					
<b>Bicistronic</b> = 2 genes of interest encoded by mRNA						
<b>Replicon Genes</b>	Gene of Interest 1	Gene of Interest 2				

Self-amplifying mDNA payload

- Ability to include multiple antigens means vaccine can have greater control of gene expression with increased safety
- With lower dose it is easier to include additional antigens on the same sa-mRNA

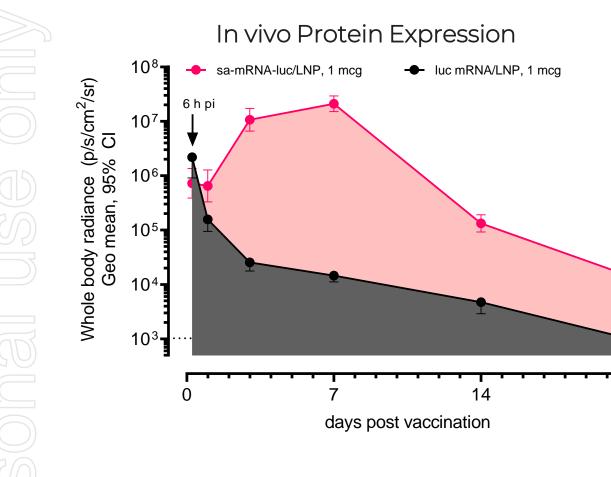
#### Lipid Nanoparticle (LNP)



- Cationic Lipid is main component of LNP that mediates entry
- Cationic Lipid drives some reactogenicity, different companies have different lipids

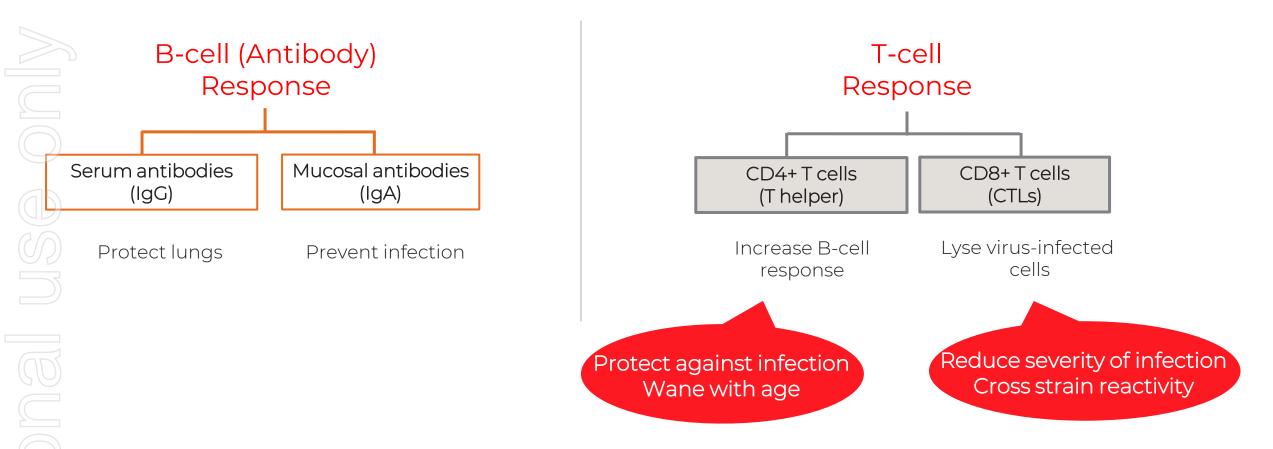
#### sa-mRNA Platform Expresses More Protein than First Generation mRNA

21



- sa-mRNA expresses 100+ fold more protein than mRNA
- sa-mRNA expression prolonged compared to mRNA
- Lower potential dose is benefit for influenza vaccines that require multiple strains

### More Engaged Immune System = More Protective Response



CD8+ T-Cell responses to conserved epitopes add a new protective layer

#### sa-mRNA Platform Raises More Robust T-cell Responses (CD8+/CD4+) than mRNA

COVID sa-mRNA Vaccination Cellular Responses CoV-2-S-specific CD8+T cells CD8 T cells: % Ag-specific, IFN- $\gamma$ + CD4 T cells: % Ag-specific, TNF-CD8 T cells: % Ag-specific, IFN 1.2 14 14 12 12 1 10 10 0.8 8 8 0.6 6 6 0.4 4 0.2 2 2 0 0 0 0.07 49 0.01 49 1 Ug 2 UG 0.07 UG 2 UG

CoV-2-S-specific CD4+T cells

TNF.

Ag-specific,

cells: %

CD4 T

1.2

0.8

0.6

0.4

0.2

- sa-mRNA > Moderna mRNA (~5x-8x) published cellular responses
- S1 peptide mix used in similar experiments published by Moderna

CoV-2-S sa-mRNA (Segirus) CoV-2-S mRNA (Moderna\*)

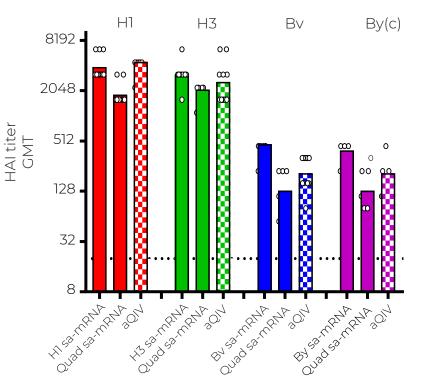
0.01 49

1 JO

\*Moderna data; Corbett, K.S. et al., (2020) BioRxiv. Unpublished data, Segirus

#### sa-mRNA Influenza Vaccine Induces Antibody Response Equal to MF59® Vaccine AND Superior CD8+ T-Cell Responses

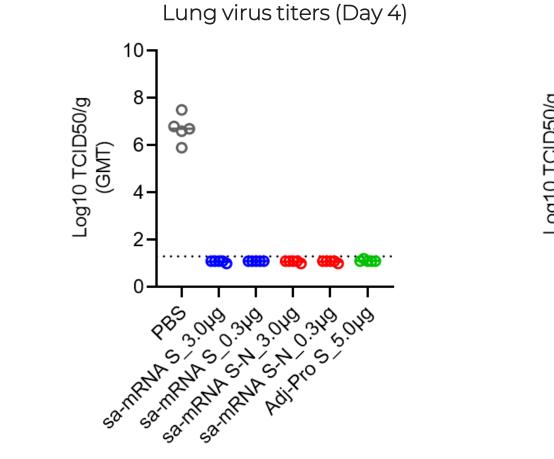
#### Influenza Hemagglutination Inhibition



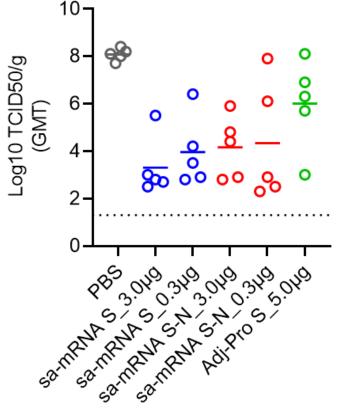
sa-mRNA Monovalent vaccine at 1 ug dose per target strain; sa-mRNA Quadrivalent vaccine at 1 ug dose per strain

- sa-mRNA quadrivalent vaccines raise robust Hemagglutination Inhibition (HAI) titers
- Hemagglutinin, Neuraminidase (NA), Matrix, and Nucleoprotein all raise strong CD8+ and CD4+ responses
- Neuraminidase raises strong neutralization and NA-blocking antibody responses

#### sa-mRNA SARS-CoV-2 Vaccines Protect Hamsters Against Viral Challenge



Nasal turbinate titers (Day 4)



Unpublished data, Seqirus



#### Seqirus and Future Influenza Vaccine Portfolio

### FY22 Seqirus Milestones

#### FLUCELVAX® QUAD

- Australia 2yr+ age extension approval
- Argentina 6mo+ age extension approval

#### FLUAD<sup>®</sup> QUAD

• Adult 50-64yr immunogenicity study start

#### aQIVc

• Phase II Older Adult study results

#### Self-amplifying mRNA

• Completion of GLP Tox study

# The Promise and Challenges of New Influenza Vaccines

aQIVc has the potential to be the most effective differentiated influenza vaccine with currently approved technology

sa-mRNA provides great promise for influenza and is a high priority project for CSL/Seqirus

- Potential efficacy benefit, enhanced readiness (speed), simplification of manufacturing, antigen-agnostic technology readiness
- Challenges in influenza include efficacy (*influenza is not SARS-CoV-2*), side-effects, stability, presentation

## Summary

#### William Mezzanotte MD

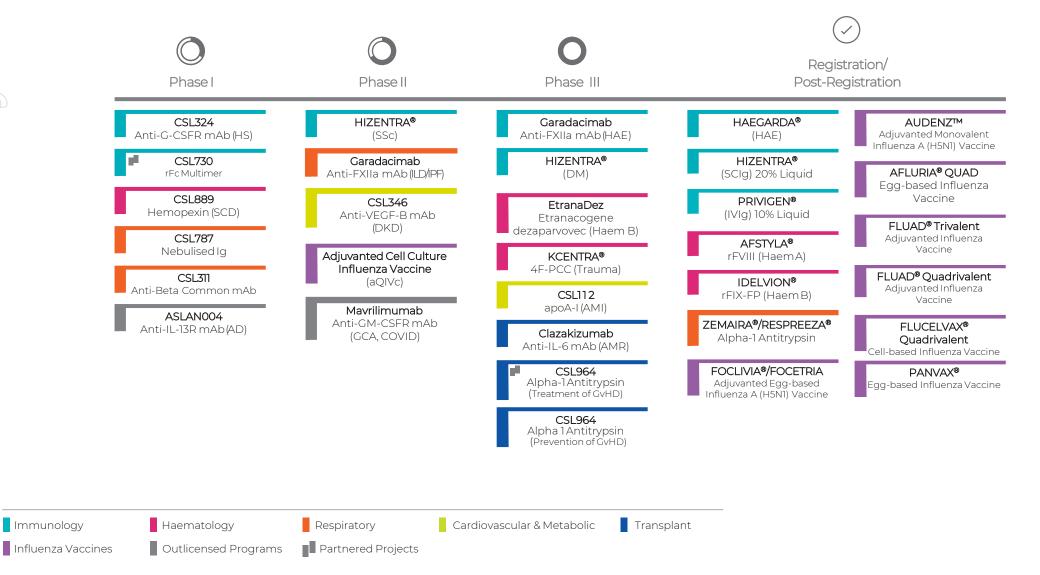
Executive Vice President, Head of R&D and Chief Medical Officer

CSL Behring

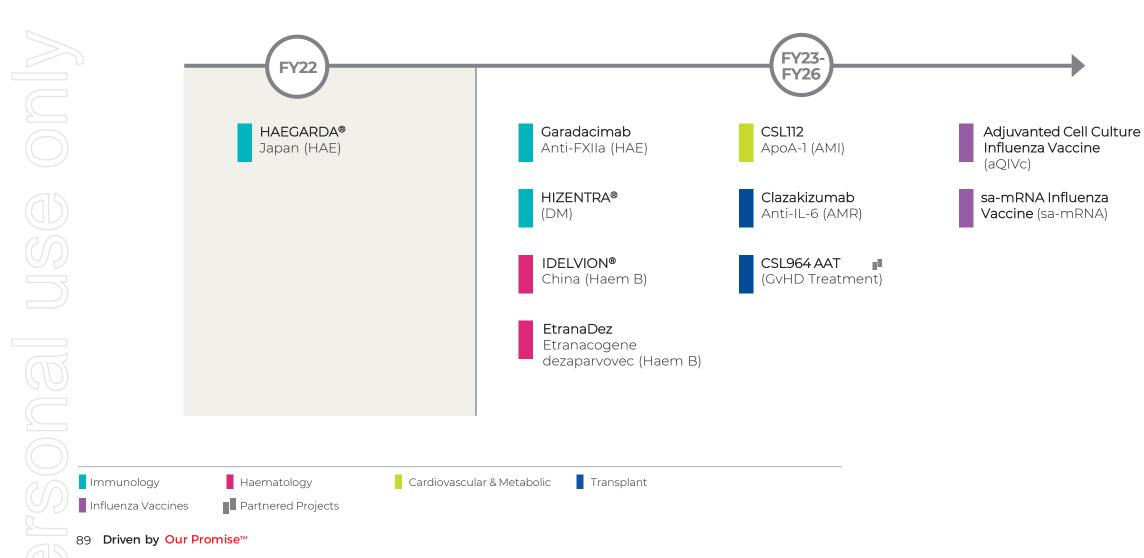
87 Driven by Our Promise™



#### R&D Portfolio – FY22



#### Significant Target Launch Dates



# R&D Portfolio Highlights – FY22



#### Immunology

- **Garadacimab** (Anti-FXIIa) complete Phase III HAE study enrolment
- CSL324 (Anti-G-CSFR) complete PK/Ethnicity study for SC formulation and inclusion of Japan
- HAEGARDA® submission to PMDA for treatment of HAE
- HIZENTRA® SID CLL initiate Phase III study



- Respiratory
- **CSL311** (Anti-Beta Common) initiate POM study in mild asthmatic patients
- Garadacimab (Anti-FXIIa) initiate Phase II IPF study
- CSL787 (Neblg) complete Phase I study



- KCENTRA® initiate Phase III study for treatment of massive haemorrhage associated with severe traumatic injury
- EtranaDez (Haem B gene therapy) BLA/MAA submission (US/EU)
- IDELVION® rFIX-FP (Haem B) China CTA filing
- AFSTYLA® rFVIII (Haem A) China IND submission



- CSL112 (apo A-I) complete 3<sup>rd</sup> interim analysis
- CSL346 (Anti-VEGF-B) complete enrolment Phase II POC study for DKD



• CSL964 (AAT) for prevention of GvHD initiate Phase III study



- aQIVc (cell antigen + MF59<sup>®</sup>) complete Phase II safety & immunogenicity study
- FLUCELVAX<sup>®</sup> Quadrivalent US approval 6mo+ indication
- FLUCELVAX<sup>®</sup> QUAD Australia 2yr+ extension approval
- FLUAD® Quadrivalent Adults 50-64yr initiate Phase III study

CSL

### Panel Q&A Session