



CSL

CSL
2023 Research Acceleration Initiative

September 2022

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Manager, Research Innovation

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AGENDA



Overview of CSL



CSL Research
Acceleration Initiative



CSL's core
Therapeutic Areas



Areas of interest for
collaboration



Benefits of
collaborating with CSL



Questions



Overview of CSL



Our Businesses

CSL

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graph TD; CSL[CSL] --- CSL_Behring[CSL Behring]; CSL --- CSL_Plasma[CSL Plasma]; CSL --- CSL_Seqirus[CSL Seqirus]; CSL --- CSL_Vifor[CSL Vifor];
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CSL Behring

Biotherapies & Rare Disease

CSL Plasma

Plasma Donation

CSL Seqirus

Vaccines

CSL Vifor

Iron Deficiency & Nephrology*

Driven by **Our Promise**

* CSL will follow the required legal processes of formally changing the names for Vifor Pharma and Seqirus entities in due course.

CSL at a Glance



Countries of operations
around the world



Billion in annual revenue



Billion in R&D investments in the last
5 years to advance product pipeline



Employees around the world

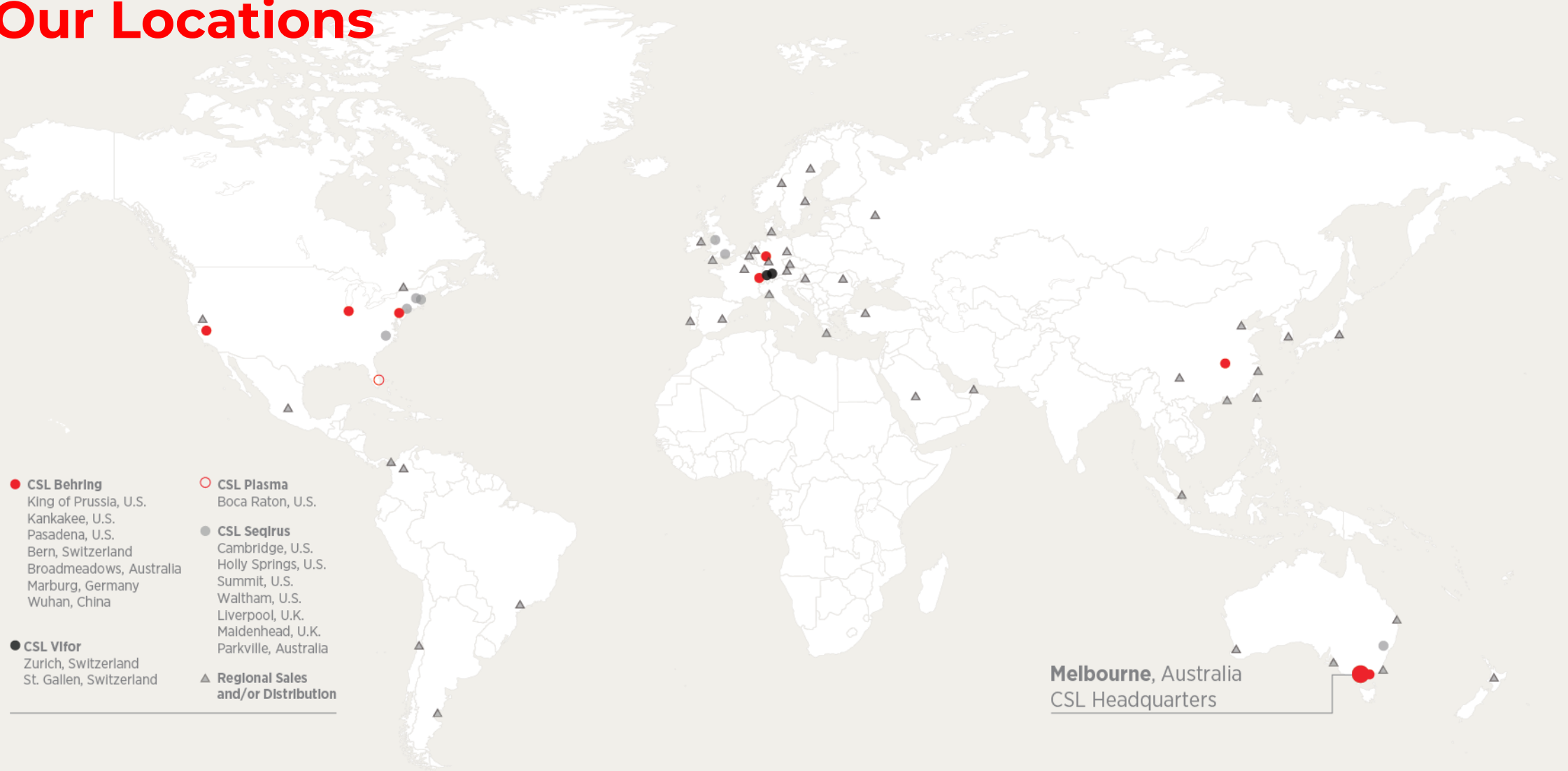


R&D employees



Plasma collection centres across
China, Europe and North America

Our Locations



- **CSL Behring**
King of Prussia, U.S.
Kankakee, U.S.
Pasadena, U.S.
Bern, Switzerland
Broadmeadows, Australia
Marburg, Germany
Wuhan, China
- **CSL Plasma**
Boca Raton, U.S.
- **CSL Seqirus**
Cambridge, U.S.
Holly Springs, U.S.
Summit, U.S.
Waltham, U.S.
Liverpool, U.K.
Maldenhead, U.K.
Parkville, Australia
- ▲ **Regional Sales and/or Distribution**
- **CSL Vifor**
Zurich, Switzerland
St. Gallen, Switzerland

Melbourne, Australia
CSL Headquarters



Top 25 Biotech Companies of 2022

Rank	Company	Ticker Symbol	Market Cap (US\$ Billion)
1	Novo Nordisk	NOVO-B (CPH)	236.0
2	Thermo Fisher Scientific	TMO (NASD)	213.4
3	Amgen	AMGN (NASD)	130.8
4	CSL Ltd	CSL (ASX)	92.2 B
5	Gilead Sciences Inc	GILD (NASD)	77.6
6	Regeneron Pharmaceuticals Inc	REGN (NASD)	67.4
7	Vertex Pharmaceuticals	VRTX (NASD)	61.5
8	Moderna	MRNA (NASD)	58.7
9	Chugai Pharmaceutical	4519 (JPX)	52.6
10	Illumina	ILMN (NASD)	50.9
11	Lonza	LONN (SWX)	49.2
12	WuXi AppTec	603259 (SHSE)	47.9
13	Samsung Biologics	207940 (KRX)	42.2
14	Agilent Technologies	A (NYSE)	40.3
15	Jiangsu Hengrui Medicine Co Ltd	600276 (SHSE)	40.1
16	BioNTech SE	BNTX (NASD)	33.4
17	WuXi Biologics	2269 (HKG)	33.3
18	Biogen	BIIB (NASD)	30.8
19	Sun Pharmaceutical Industries	SUNPHARMA (NSE)	26.1
20	Seagan	SGEN (NASD)	23.9

Research Acceleration Initiative



CSL's Research Acceleration Initiative

Objective: to build relationships with entrepreneurial researchers and fastrack discovery of innovative medicines that address unmet needs

Focus on early stage projects in specific areas aligned with CSL's Therapeutic Areas

Why? Early collaborations with high quality academic partners are key to building a sustainable pipeline

CSL has a strong interest in supporting local medical research efforts and strengthening POC capability in the countries in which we work

- ✓ Successful applicants receive up to EUR 170k p.a. for up to 2 years
- ✓ CSL scientific champions assigned to each project to provide expert, industry guidance



CSL Research Acceleration Initiative

Seeking Expressions of Interest from Research Organisations

CSL is a leading global biotech company that develops and delivers innovative biotherapies to help people living with life-threatening medical conditions live full lives.

CSL's **Research Acceleration Initiative** aims to fast-track discovery of innovative biotherapies through partnerships between CSL and global research organisations. These partnerships provide funding and access to industry experts for scientists working on novel biotherapeutic strategies in CSL's therapeutic areas.

Expressions of interest are sought from Business Development / Commercialisation representatives across global research organisations that wish to participate in the 2023 CSL Research Acceleration Initiative.

The 2023 Research Acceleration Initiative will focus on innovative research projects that address unmet medical needs and are aligned with CSL's **Therapeutic Areas** and scientific **Platforms**.



WHY COLLABORATE WITH CSL?



Global capabilities on your doorstep.



Work with one of the world's leading biotech companies.



Funding for successful proposals.



Access to commercial R&D, clinical, intellectual property, marketing and manufacturing expertise.



Accelerate translation of your research to deliver new therapies to patients.

To register your research organisation please email RAI@csl.com.au by 11th December, 2022.

CSL 2023 Research Acceleration Initiative Process

11th Dec 2022
– registration
deadline

Early Feb – CSL
information
sessions for
interested
researchers

24th Mar –
selected
applicants
invited to
submit full
application

End May –
shortlisted
applicants notified,
CDAs put in place

July/Aug –
confidential data
evaluated &
successful
applicants
selected

**Contracts
negotiated**
Will involve CSL
Global Licensing,
Global IP, CSL
Research.
Agreement to
include detailed
research plan &
budget.

3rd Jan 2023 –
scientific call
opens

23rd Feb – 300 word
online abstract
submission deadline

Applications
reviewed by CSL

21st Apr – full
application
submission
deadline

Applications
reviewed by CSL

26th – 29th June –
confidential
presentations by
shortlisted
applicants

Sept – notification
of intention to
fund successful
applicants

**Funding
awarded &
collaborative
projects
commence**

No obligation for registered organisations to submit applications

*No limitation on number of abstracts each registered organisation
can submit*

Agreement Guidance



Separate collaboration agreements will be negotiated for each project which reflect the nature of the project, nature of funding and support, and the contributions of both parties



Under these negotiated agreements, CSL will be granted certain rights of interest to the program results for further R&D and/or commercialisation



Collaboration agreements will typically include the following terms (although CSL may propose other conditions depending on the nature of the project):

- *Research organisation will own results arising under the project*
 - CSL would typically own any results which relate to proprietary CSL products or materials if they are contributed to the project
 - The RAI is designed to accelerate the translation of novel discoveries made by research scientists – for proposals outside this scope, we may propose that projects be progressed outside the RAI
- *CSL will be granted an exclusive option to negotiate an exclusive, worldwide licence*
- *CSL supports publication of research outcomes*

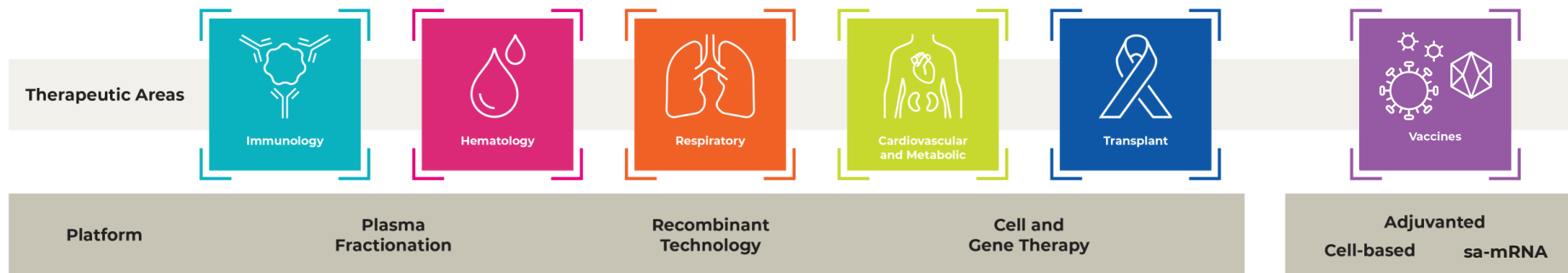


Further details on agreement terms can be provided on request

Eligibility

To be eligible to apply, researchers/clinicians must satisfy the following 2 conditions:

1. Be employed by a research organization registered to participate in the 2023 Research Acceleration Initiative
2. Submit a 300 word online abstract that is aligned with CSL's Therapeutic Areas and scientific Platforms:



Specific indications of focus within each TA will be provided ahead of the scientific call

Abstract submission via online portal

Step 1/2 - Lead Investigator Information

Fields with * are mandatory

First Name *	Salutation
<input type="text"/>	<input type="text"/>
Last Name *	Job Title *
<input type="text"/>	<input type="text"/>
Organization *	Phone
<input type="text"/>	<input type="text"/>
Email *	Confirm Email *
<input type="text"/>	<input type="text"/>
Address	
<input type="text"/>	
City	Zip/Postcode
<input type="text"/>	<input type="text"/>
Country *	
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CONTINUE

Step 2/2 - Describe your opportunity and confirm submission

Please describe and categorize your opportunity.

Fields with * are mandatory

Proposal Title *

Therapeutic Area *

Cardiovascular & Metabolic	Hematology	Immunology
Respiratory	Transplant	
Not specific to a Therapeutic Area (e.g. platform technology)		

Indications *

Modality *


Plasma	Recombinant (incl. antibodies)	Gene therapy
Cell therapy	Peptide	Extracellular vesicles
Oligonucleotide (siRNA, asRNA, ncRNA)	Small molecule	Other modality

Project Description (max. 300 words) *

Example of what to include in Project Description: "We have discovered a novel target expressed on X cells. We have generated data in X assay(s) and/or X model(s). We have shown the mechanism of action is mediated via X pathway(s). Inhibition of this target could be used to treat X indication(s). This novel strategy could address an important unmet need for patients and be superior to standard of care and other therapeutics in development for reasons X, X and X."

I have read the privacy policy and agree with it. [Read more...](#) *

I hereby confirm that my submission does not contain any confidential information. *

I'm not a robot  [Privacy](#) [Terms](#)

BACK **SUBMIT**

What is involved for participating research organisations?



Abstract submission

- Internal promotion of initiative (*CSL to provide flyer*)
- Promotion of CSL information sessions/webinars for interested researchers
- Provide abstract submission portal link to researchers
- Discuss proposals with interested scientists ahead of 300 word abstract submission deadline



Full Proposal

- Support shortlisted researchers with preparation of full proposal via CSL RAI application form
- Ensure no disclosure of confidential information prior to submission of applications to CSL



RAI Finalists

- Facilitation of CDA
- Assist with scheduling of confidential presentations to CSL



Successful applicants

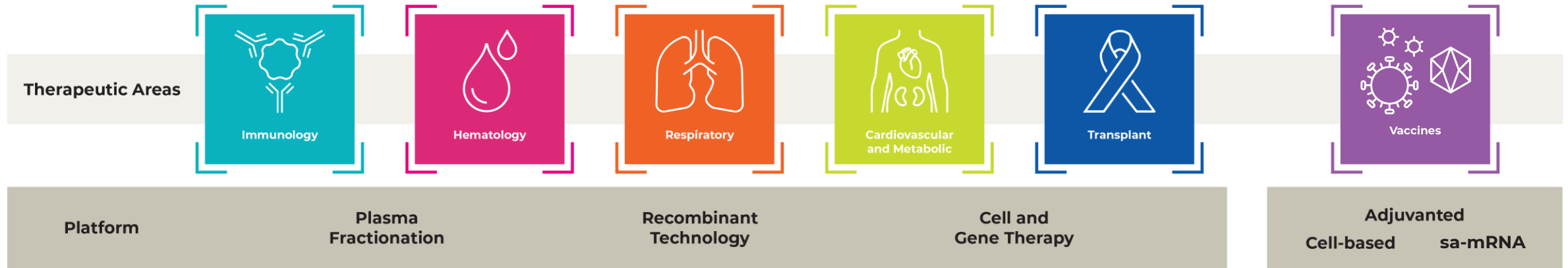
- Contract negotiation
- Preparation of detailed research plan and budget in partnership with CSL

Connect CSL with the appropriate internal contact(s) for each stage of the process

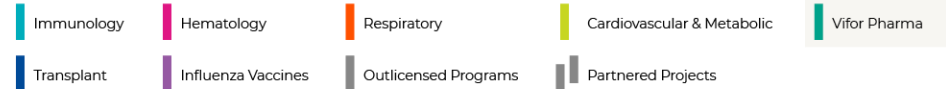
CSL's core Therapeutic Areas



CSL's Core Therapeutic Areas & Platforms



R&D Portfolio – FY22



Phase I	Phase II	Phase III	Registration/Post-Registration
CSL324 Anti-G-CSFR mAb (HS)	HIZENTRA® (SSc)	Garadacimab Anti-FXIIa mAb (HAE)	CSL112 apoA-I (AMI)
CSL730 rFc Multimer	Garadacimab Anti-FXIIa mAb (ILD/IPF)	HIZENTRA® (DM)	Clazakizumab Anti-IL-6 mAb (AMR)
CSL889 Hemopexin (SCD)	CSL346 Anti-VEGF-B mAb (DKD)	EtranaDez Etranacogene dezaparvovec (Hem B)	CSL964 Alpha-1 Antitrypsin (Treatment of GvHD)
CSL787 Nebulised Ig	Adjuvanted Cell Culture Influenza Vaccine (aQIVc)	KCENTRA® 4F-PCC (Trauma)	CSL964 Alpha 1 Antitrypsin (Prevention of GvHD)
CSL311 Anti-Beta Common mAb	Mavrilimumab Anti-GM-CSFR mAb (GCA, COVID)	Sparsentan¹ Dual ET _A & AT ₁ antagonist (FSGS)	SNF-472 Calcification inhibitor (CUA-ESRD)
ASLAN004 Anti-IL-13R mAb (AD)	VIT-2763 Oral ferroportin inhibitor (Sickle cell disease)	Sparsentan¹ Dual ET _A & AT ₁ antagonist (IgA Nephropathy)	SNF-472 Calcification inhibitor (PAD-ESRD)
INS-3001 Oral calcification inhibitor (PAD, aortic valve stenosis)	VIT-2763 Oral ferroportin inhibitor (Beta-thalassemia)		ZEMAIRA®/RESPREEZA® Alpha-1 Antitrypsin
			FOCLIVIA®/FOCETRIA Adjuvanted Egg-based Influenza A (H5N1) Vaccine
			VELTASSA Oral potassium binder (Hyperkalemia)
			KORSUVA/KAPRUVIA² Kappa-opioid rec. agonist (CKD-aP)
			HAEGARDA® (HAE)
			HIZENTRA® (SCIg) 20% Liquid
			PRIVIGEN® (IVIg) 10% Liquid
			AFSTYLA® rFVIII (Hem A)
			IDELVION® rFIX-FP (Hem B)
			ZEMAIRA®/RESPREEZA® Alpha-1 Antitrypsin
			FOCLIVIA®/FOCETRIA Adjuvanted Egg-based Influenza A (H5N1) Vaccine
			VELTASSA Oral potassium binder (Hyperkalemia)
			KORSUVA/KAPRUVIA² Kappa-opioid rec. agonist (CKD-aP)
			AUDENZ™ Adjuvanted Monovalent Influenza A (H5N1) Vaccine
			AFLURIA® QUAD Egg-based Influenza Vaccine
			FLUAD® Trivalent Adjuvanted Influenza Vaccine
			FLUAD® Quadrivalent Adjuvanted Influenza Vaccine
			FLUCELVAX® Quadrivalent Cell-based Influenza Vaccine
			PANVAX® Egg-based Influenza Vaccine
			TRAVENOS®³ Oral C5a receptor (ANCA associated vasculitis)
			ROYALDEE®⁴ Oral calcifediol (Sec. hyperparathyroidism)

1 Licensed from Travere Therapeutics, Inc.
 2 Licensed from Cara Therapeutics, Inc.
 3 Licensed from ChemoCentryx, Inc.
 4 Licensed from OPKO Health, Inc.

* Indicative of combined CSL/Vifor FY22 R&D portfolio assuming completion of acquisition.
 # Vadadustat licensed from Akebia Therapeutics, Inc.; Status pending - Complete Response Letter (CRL) received from FDA due to safety concerns.
 Formal integration of Vifor's R&D programs into CSL's R&D portfolio will be subject to CSL's standard R&D portfolio review, management and integration processes.

Product and pipeline highlights



Privigen® (10% intravenous Ig)
Primary immunodeficiencies (PID), Secondary Immune Deficiency (SID)*, Chronic inflammatory demyelinating polyneuropathy (CIDP)

Hizentra® (20% subcutaneous Ig)
PID, CIDP, SID*
Dermatomyositis (DM), Ph III
Systemic sclerosis (SSc), Ph II

Haegarda® (C1 Esterase Inhibitor)
Hereditary angioedema

Garadacimab (Anti-FXIIa mAb)
Hereditary angioedema, Ph III

CSL324 (Anti-G-CSFR mAb)
Hidradenitis suppurativa (HS), Ph I

CSL730 (Recombinant Trivalent Human IgG1 Fc Multimer), Ph I

Gene Therapy Treatments
PID, Research



Idelvion® (Recombinant FIX-FP)
Hemophilia B

Afstyla® (Recombinant FVIII)
Hemophilia A

Kcentra® (Prothrombin complex concentrate)
Urgent warfarin reversal

Etranacogene dezaparvovec (AAV FIX gene therapy)
Hemophilia B, Ph III

CSL889 (Hemopexin)
Sickle cell disease, Ph I

CSL888 (Haptoglobin)
Sub-arachnoid hemorrhage, preclinical development

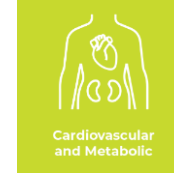


ZEMAIRA®/RESPREEZA® (Alpha 1 Antitrypsin)

Garadacimab (Anti-FXIIa mAb)
Idiopathic Pulmonary Fibrosis, Ph IIa

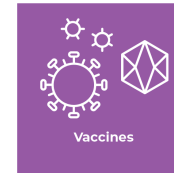
CSL311 (Anti-β-common mAb)
Airways inflammation, Ph I

CSL787 (Nebulised Ig)
Respiratory infections, Ph I



CSL112 (ApoA-1)
Acute coronary syndrome, Ph III

CSL346 (Anti-VEGFB mAb)
Diabetic kidney disease, Ph II



FLUAD Quadrivalent
Adjuvanted Influenza Vaccine

FLUCELVAX Quadrivalent
Cell-based Influenza Vaccine

Adjuvanted Cell Culture Influenza Vaccine (aQIVc), phase II

sa-mRNA Influenza Vaccine, PC



CSL964 (Alpha 1 Antitrypsin)
Graft versus host disease, Ph III

Clazakizumab (Anti-IL-6 mAb)
Antibody mediated rejection, Ph III

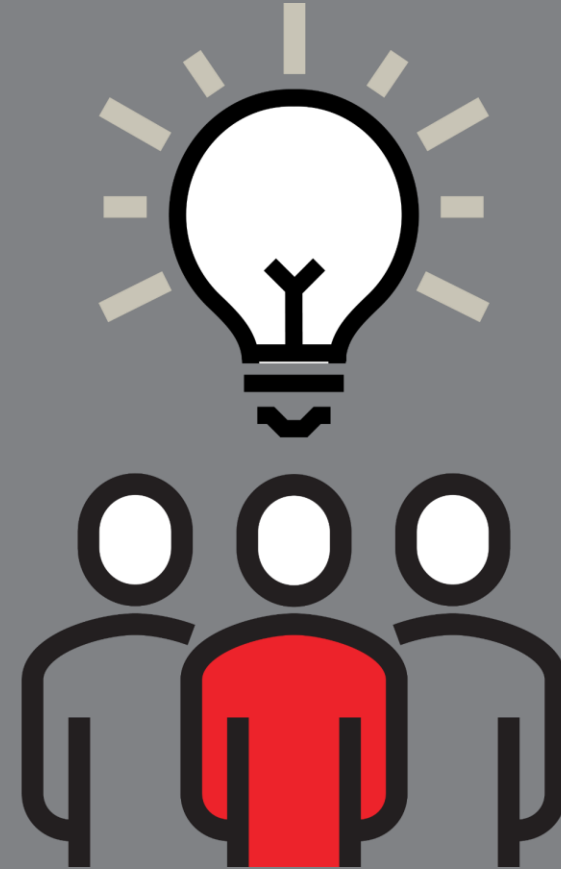
CSL040 (Novel Complement Inhibitor), PC

*ex-USA

Our full pipeline can be viewed [here](#)

Driven by **Our Promise**

Areas of interest for collaboration





Immunology



Core interests for external collaboration

Immune deficiencies

Primary immune deficiency gene therapy and targets

Autoimmune diseases

e.g. Primary Sjögren's syndrome, systemic sclerosis, inflammatory idiopathic myopathies incl. dermatomyositis, autoimmune blistering diseases

Therapeutic strategies for autoimmune diseases

- Novel immunomodulatory strategies targeting cytokines, chemokines, modulatory proteins and TNF-family members
- B cell depletion / regulation strategies

Alternatives to plasma-derived Ig / Recombinant IVIg



Hematology



Core interests for external collaboration

Hemorrhagic and acute ischemic stroke

- Novel biologic targets / therapeutics or strategies to understand pathomechanisms
- Biomarker / Omics approaches for patient stratification and drug discovery

Acute thrombosis (venous and arterial thrombosis)

Novel therapies / approaches for targeted fibrinolysis / thrombolysis with increased efficacy and safety

Sickle cell disease

Prophylactic therapies to reduce vaso-occlusive crises and chronic vasculopathy



Respiratory



Core interests for external collaboration

Asthma

(severe, uncontrolled)

Chronic obstructive pulmonary disease

(exacerbations)

Non-cystic fibrosis bronchiectasis

Interstitial lung diseases

(progressive fibrosing)

Community acquired pneumonia (CAP)-associated complications

(acute respiratory distress syndrome, sepsis, acute kidney injury)



Cardiovascular and Metabolic



Core interests for external collaboration

Myocarditis

Dilated cardiomyopathy

Inflammatory etiologies

Severe forms of atherosclerosis

Inflammatory targets/candidates

Rare lipid disorders

(e.g. homozygous familial hypercholesterolemia)



Transplant



Core interests for external collaboration

Chronic lung allograft dysfunction

Including prevention, antibody-mediated rejection, tolerance, immunomodulation, biomarkers, animal models

Hematopoietic stem cell transplant (HSCT)

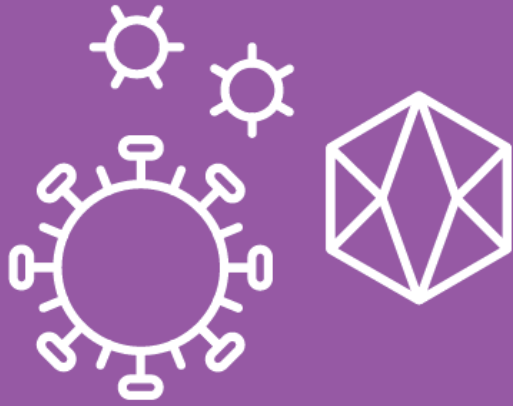
Treatment and prevention of acute and chronic GvHD, tolerance, immunomodulation, improving efficacy / safety of HSCT

Cardiovascular allograft vasculopathy

Treatment and animal models

Ischemia reperfusion injury

Prevention



Vaccines



Core interests for external collaboration

mRNA and lipid nanoparticle platform

Innovative research addressing improved delivery, formulation, stabilization (5°C / room temperature), shelf-life extension and manufacturing technologies

Influenza virus antigen purity and yield enhancement

Innovative research with potential to impact yield and purity of influenza virus HA antigen produced in MDCK cell culture

Proven adjuvant technology

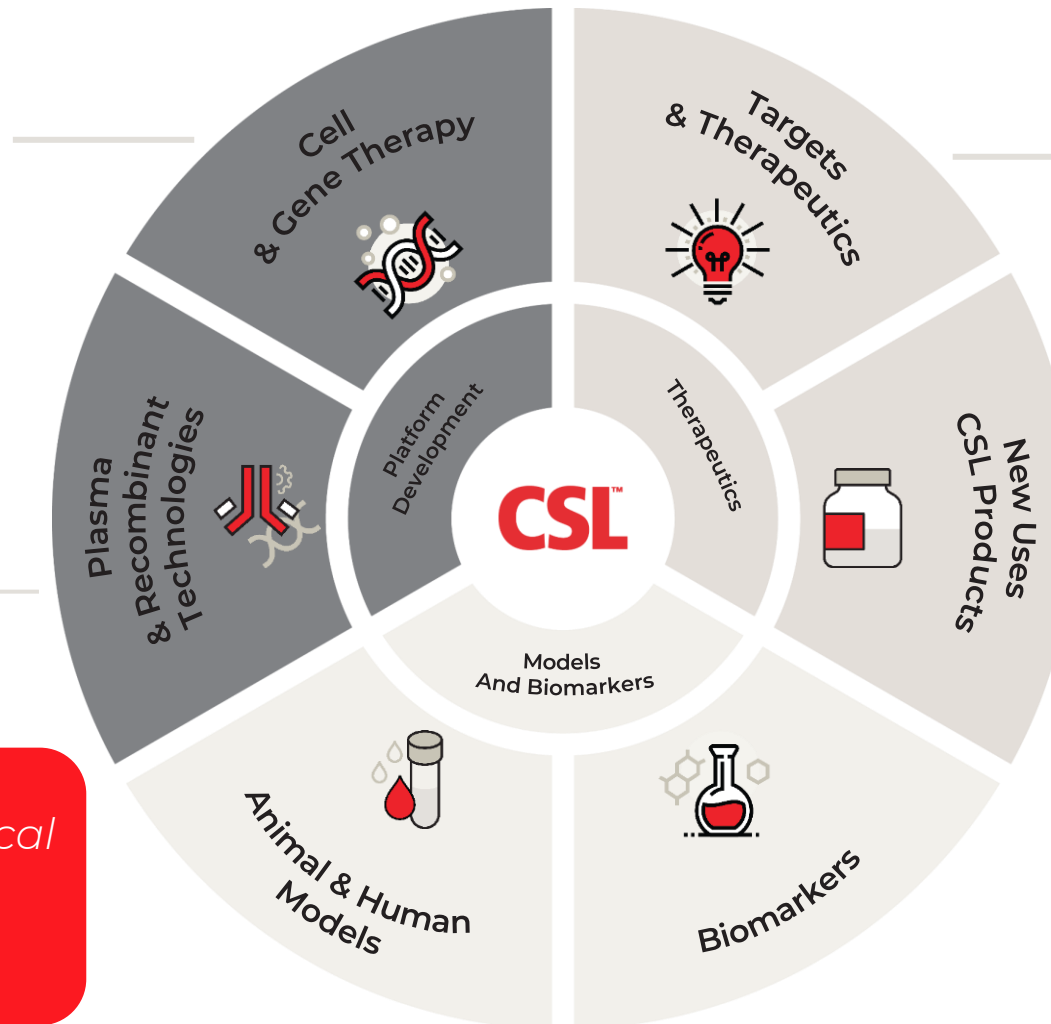
Partnerships with our proprietary adjuvant MF59®

CSL's Areas of Interest for Collaborations

- *In vivo* kill switch or suicide switch
- Modulation of transgene expression *in vivo*
- Novel methods to select gene modified HSCs
- Novel therapeutic gene therapy targets aligned with CSL's Therapeutic Areas
- Non-viral *in vivo* delivery of RNPs
- Alternative mRNA delivery methods

- Oral delivery of biologics
- Protein purification technologies
- Bioprocess improvements
- MDCK cell culture yield improvements

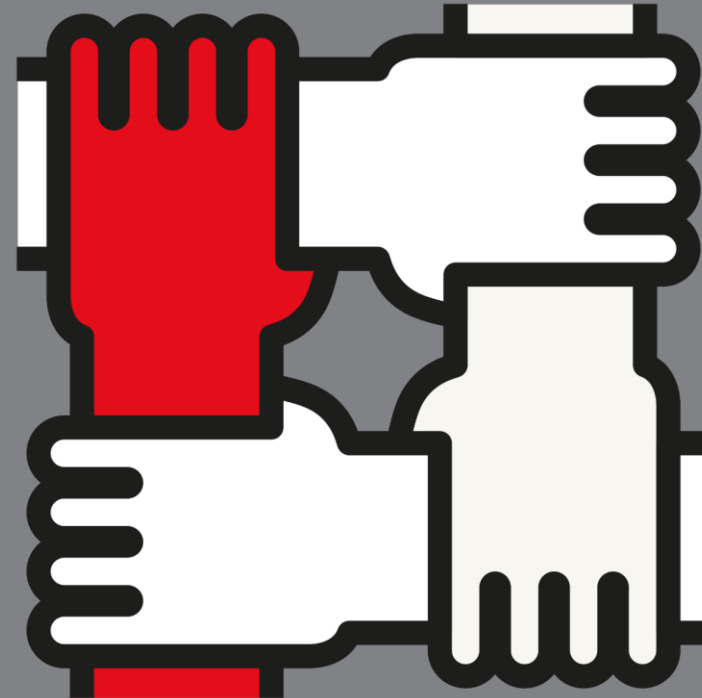
- Antibodies
- Protein therapeutics
- LV gene therapies
- Cell therapies
- Structural vaccinology



Areas not of interest

- *Oncology (including hematological malignancies)*
- *Medical devices or diagnostics*
- *Small molecule approaches*

Benefits of collaborating with CSL



Capabilities from Discovery to Patients



Target Discovery



Translational Medicine & Data Science



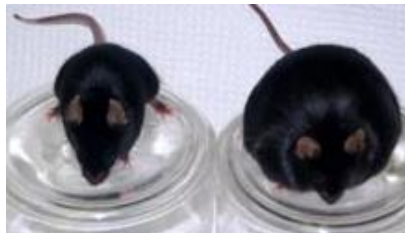
Phase I / II Manufacturing



Patients

THERAPEUTIC PLATFORMS

CLINICAL STUDIES



Animal Models of Disease



Toxicology & Product Development



Phase III / Launch Manufacturing

Benefits of collaborating with CSL



Global capabilities on your doorstep



Work with one of the world's leading biotech companies



Funding for successful proposals



Access to commercial, R&D, clinical, intellectual property, marketing and manufacturing expertise



Accelerate translation of your research to deliver new therapies



34 new partnerships established via the Research Acceleration Initiative since 2019



>200 active Research collaborations



170+ scientific papers published with our collaborators since 2020

Checklist for 2023 Research Acceleration Initiative

- ✓ Register your research organisation by 11th Dec 2022 by emailing RAI@cslbehring.com (NB: 2022 participants are automatically re-enrolled)
- ✓ Update your organization's primary contact details if required
- ✓ CSL will provide flyer with primary contact details for promotion within your research organizations
- ✓ CSL will provide the link to the online abstract submission portal
- ✓ CSL will provide you with invitations to information webinars to share with interested researchers – webinars will be held in Feb 2023
- ✓ Online portal opens for abstract submissions by researchers on 3rd Jan 2023 and closes on 23rd Feb 2023



Questions



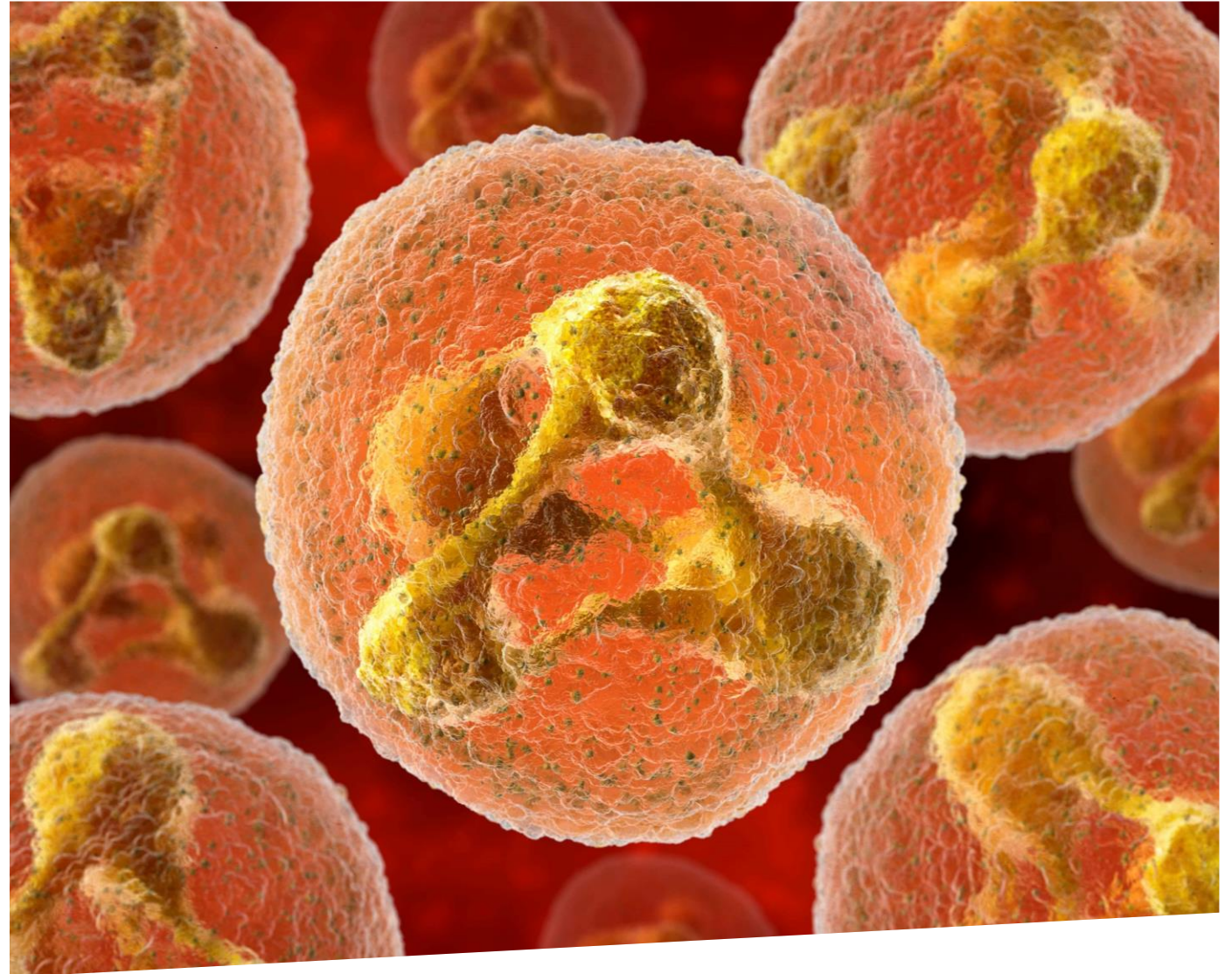
THANK YOU

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RAI@cs Behring.com

[csl.com/csl-rai](https://www.csl.com/csl-rai)



Terms and Conditions for Research Acceleration Initiative Portal ("RAI Portal")

1. This RAI Portal is an online portal operated by CSL Innovation Pty Ltd ("CSL") for the purpose of allowing individuals to submit scientific proposals for consideration by CSL for its Research Acceleration Initiative program. By using this website and the RAI Portal, and by providing your submission and personal information to CSL, you are agreeing to abide by these terms and conditions.
2. You acknowledge and agree that CSL has no obligations of confidentiality or non-use in relation to the submission provided. You warrant that your submission does not contain confidential information of any kind. Further, you acknowledge that notwithstanding the existence of any confidentiality agreements previously entered into between you and CSL, the terms of such agreements will not apply with respect to any information submitted by you through the RAI Portal.
3. You further represent and warrant that:
 - a. you have the right and authorisation (including where relevant after consultation with all relevant commercialisation or technology transfer offices) to submit an application to the RAI Portal and to accept the terms and conditions set out herein;
 - b. you are an employee or are otherwise affiliated with a registered organisation authorised by CSL to submit an application to the RAI Portal; and
 - c. to the best of your knowledge and without making any further enquiries, the information provided in your submission (and CSL's use of that information in connection with the Research Acceleration Initiative program) shall not infringe on the intellectual property rights of any third party, including your current or former employer, university, public research institute or other registered organisation.
4. CSL may disclose personal information collected in connection with your use of this website or the RAI Portal to your employer, university, public research institute or other registered organisation (if applicable) as at the time your application was submitted, solely for the purpose of reviewing and determining your application. CSL will ensure that any personal information collected, used or disclosed in connection with your use of this website or the RAI Portal is handled in accordance with all relevant privacy legislation and with CSL's privacy policy, a copy of which is available at <https://www.csl.com/privacy-policy>.
5. CSL is under no obligation to respond to any individual application submitted to the RAI Portal, and may in its sole discretion choose not to progress an application further for any reason without any further communication with you.