

CSL 2024 Research Acceleration Initiative

November 2023 Research External Innovation Europe

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AGENDA



Overview of CSL





Benefits of collaborating with CSL



Therapeutic Areas

Areas of interest for collaboration



Questions



Overview of CSL





Our Businesses



CSL Behring

Biotherapies & Rare Disease

CSL Seqirus

Vaccines

CSL Vifor

Iron Deficiency & Nephrology

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* 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





R&D employees



Plasma collection centres across China, Europe and North America

Top 25 Biotech Companies of 2023



Rank	Company	Ticker Symbol	Market Cap (US\$ Billion)		
1	Novo Nordisk	NOVO-B (CPH)	371.64		
2	Thermo Fisher Scientific	TMO (NASD)	210.51		
3	Amgen	AMGN (NASD)	126.31		
4	CSL Ltd	CSL (ASX)	101.4 B		
5	Gilead Sciences Inc	GILD (NASD)	99.98		
6	Vertex Pharmaceuticals	VRTX (NASD)	88.83		
7	Regeneron Pharmaceuticals	REGN (NASD)	87.64		
8	Daiichi Sankyo	4568 (TOKYO SE)	69.55		
9	Moderna	MRAN (NASD)	50.56		
10	Jiangsu Hengrui Medicine Co Ltd	600276 (SHSE)	46.31		
11	Chugai Pharmaceutical	4519 (TOKYO SE)	45.86		
12	Biogen	BIIB (NASD)	44.69		
13	Lonza	LONN (SWX)	44.33		
14	Samsung Biologics	207940 (KRX KE)	44.12		
15	Agilent Technologies	A (NYSE)	40.08		
16	Seagan	SGEN (NASD)	37.5		
17	Illumina	ILMN (NASD)	30.79		
18	WuXi App Tec	603259 (SSEC)	29.33		
19	Sun Pharmaceutical Industries	SUNPHARMA (NSE)	28.73		
20	BeiGene	BGNE (NASD);06160 (HKE); 688235 (STAR SSEC)	27.50		

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https://www.genengnews.com/industry-news/top-25-biotech-companies-of-2023/

CSL's Key Global R&D Locations



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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

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

CSL's RAI provides a differentiated approach to partnering:

- ✓ Up to USD \$400,000 funding over 2 years
- ✓ CSL scientific champion assigned to each project
- ✓ Focused on early-stage projects
- ✓ Simple and fast 300-word initial application
- Clear and transparent timelines

CSL

Seeking Expressions of Interest from Research Organizations

CSL is a leading global biotech company that develops

partnerships provide funding and access to industry experts for scientists working on novel biotherapeutic

Expressions of interest are sought from Business

the 2024 CSL Research Acceleration Initiative

Development / Commercialization representatives across

global research organizations that wish to participate in

strategies in CSL's therapeutic areas.

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 organizations. These

Acceleration Initiative

CSL Research

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

innovative research projects that address unmet medical needs and are aligned with CSL's **Therapeutic Areas** and scientific **Platforms**:

The 2024 Research Acceleration Initiative will focus on



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

To register your research organisation please email RAI@csl.com.au by 15th December 2023

CSL has invested in 30+ RAI partnerships since 2019

"We had a **stellar experience participating in the CSL RAI process**. The information material, informational webinars, and access to the program team for Q&A was well received by our faculty"

> RAI 2023 participant University of Pittsburgh

"Peerless experience – **timely, transparent, actionable communication**."

RAI 2023 participant University of British Columbia

"Well-designed, easy and clear process. **Highly engaged and highly responsive to all questions** and provided wellcontemplated and customised feedback."

> RAI 2023 participant University of Toronto

"It has been a great pleasure to collaborate with our colleagues at CSL. The Research Acceleration Initiative (RAI) is an **outstanding platform that helps bridge the academic** world with industry."

> RAI 2021 awardee Justus-Liebig-Universität Giessen

"**CSL Behring has proven to be an exceptional collaborator**, fostering a scientifically focused partnership marked by open scientific exchange and generosity. Their extensive research expertise has consistently enriched our collaborative efforts"

> RAI 2021 awardee Klinikum der Universität München (KUM)

> > "...the webinar session was very useful because it **clearly indicated which areas CSL was interested in funding**, thereby allowing me to focus my thoughts on them."

RAI 2022 awardee Nanyang Technological University

"...the opportunity to address **feedback** from CSL and to refine the project was particularly valuable"

> RAI 2023 participant The University of Adelaide

"The types of projects CSL were looking for was made very clear, the process of submitting an application was easy and **did not require excessive time or effort**."

> RAI 2023 participant Auckland UniServices Ltd

SEVEN NEW CSL RESEARCH

ACCELERATION INITIATIVE AWARDEES

Dr Laurent Martinez

Institute of Cardiovascular and Metabolic Diseases (I2MC), IHU HealthAge, INSERM / University of Toulouse, France

Prof. Delphine Borgel INSERM - APHP - Université Paris SACLAY, France

Prof. Denis Vivien INSERM / Caen Normandie University Hospital, France

Research Director Benoit Salomon INSERM / University of Toulouse, France

Assoc Prof. Tan Meng How Nanyang Technological University, Singapore

Prof. Elisa Laurenti University of Cambridge, United Kingdom Prof. Leon Schulte

Philipps-Universität Marburg, Germany

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CSL 2024 Research Acceleration Initiative Process

	Ab	1 Abstracts		2 Full Application		3 Confidential Presentations			4 Funding Outcome			
15th Dec 2023 – organisation registration deadline Early Feb – CSL informatio sessions for interested • researchers		ion	selected applicants short invited to submit full notifie		shortliste	ay/early June – July/Aug – confider data evaluated & d, CDAs put in successful applicants selected			Will involve CSL Global Licensing, Global IP, CSL			
	2nd Jan 20 2 scientific ca opens	all	27th Feb – 300 word o abstract su deadline Application by CSL		29th Apr – full applica submission deadline Application reviewed b	า	24th – 28th confidentia presentatio shortlisted a	l ns by	Sept – notificati intentior successfu		Funding awa collaborative projects com	

No obligation for registered organizations to submit applications

No limitation on number of abstracts each registered organization 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 commercialization



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

- Research organization will generally own results arising under the project
 - CSL would typically own any results which relate to proprietary CSL products or materials contributed to the project or may seek joint-ownership of results to which it has made a significant contribution (e.g. protein or antibody discovery and engineering activities).
 - 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 2024 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 are provided on slides 28-35.

Step 2/2 - Describe your opportunity and confirm submission

BACK SUBMIT

Grb

986 (M

Nephrology and Transplan

GD

Please describe and categorize your opportunity. Fields with * are mandatory

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Proposal Title

Primary Therapeutic Area *

Secondary Therapeutic Area

Abstract submission via online portal

Step 1/2 - Lead Investigator Information

Applications for the 2023 CSL Research Acceleration Initiative open 3rd January 2023 and close 23rd February 2023. Applications received outside these dates (before or after) will not be reviewed.

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Fields with * are mandatory		(/(@D/)	\bigcirc	Ϋ́	132	-86 K	E marter	(e.g. platform technology)			
First Name *	Salutation	Cardiovascular and Metabolic	Hernetology	Immunology	Respiratory	Nephrology and Transplant	Veccines				
	٥	Indications *									
Last Name *	Job Title *										
		Modality *									
Organization *	Phone	-	2el therapy		Ednacellular vesicles		Gene therapy				
		Oligonuciaotida (sIRNA, asRNA, ncRNA)		ų.	Peptide		Plasma				
Email *	Confirm Email *	Recombine	Recombinant (incl. antibodies)		Small molecule		Other modality				
		Opportunity Type *									
Address			Biomarker	New use	for CSL product or pipe	ine candidate	Novel target or therapeutic candidate				
					Target Discovery						
City	Zip/Postcode	Vaccines - mFINA/I	Vaccines - mRNVIpid nanoparticle platform improvements Vaccines - influenza virus ar			rus antigan purity/	yield enhancements				
Country	Committeel mains *	Vaccines uti	Vaccines utilizing MF5000 adjuvant		Other						
Country *	Geographical region *	Project Description (n	nax. 300 words)*								
			Ecomption of what to include in Project Description: "Win have descrivened a movel larget expenses of an X calls. Win have gumented data in X assesphilandler X modelphil. We have shown the mechanism of action is mechanized via X pathweylph, hitlation of this larget could be used to treat X indication(ph. This news) already could address an important unmet need for patients and be superior to alender of cases and other therapeutics in development for means X, and X*								
○ Yes ○ No								11			
CONTINUE			I have read the privacy policy and agree with it. Read more*								
	Thereby confirm that my submission does not contain any confidential information.*										
17 Submission T&Cs on I	I'm not a robot	esserves respired									

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Not specific to a

Therapoutic Area

(e.g. platform

technology)

Not specific to a

What is involved for participating research organizations?



Abstracts

- 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 Application

- 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



Confidential Presentations

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



Funding Outcome

- 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

What makes for a competitive proposal?

✓ Aligned with our focus areas and modalities (slides 28-35)

- Project is clearly defined (as opposed to a general overview of the applicant's research interests)
- ✓ Focused on a novel target or therapeutic candidate
- Clear differentiation of approach from competitors and current standard of care
- Research team has capacity and expertise to complete the bulk of the experimental work over the course of the program (with CSL guidance and support)
- ✓ If third party IP is required, ensure your research organization has secured all necessary rights to grant CSL an exclusive option to negotiate an exclusive, worldwide licence

Examples of activities funded in previous RAI partnerships

- Human target validation and translational studies using patient samples
- Mechanism of action studies for therapeutic candidates
- Benchmarking to provide proof-of-concept for the differentiation of novel therapeutics to standard-of-care or competing therapeutics in development
- Target validation using genetic knock-out/knock-in or tool compounds in preclinical disease models
- Characterization of therapeutic candidates (e.g. affinity, potency, selectivity, and developability)



Benefits of collaborating with CSL



Benefits of CSL's Research Acceleration Initiative



Collaborate with one of the world's leading biotech companies



Publish with CSL 200+ publications with our collaborators since 2020



Funding of up to \$400,000 USD over 2 years



Access expertise CSL scientific champion assigned to provide you with industry guidance



Recognition Awardees may use the title "CSL Research Acceleration Initiative Fellow"



Accelerate the translation of your research into new therapies

Access global capabilities in R&D, clinical, intellectual property, manufacturing and commercial



Demonstrate impact of your research to funding bodies via industry collaboration

Capabilities from Discovery to Patients





CSL's core Therapeutic Areas



CSL's Core Therapeutic Areas & Platforms



CSL R&D Portfolio – FY24



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

Haegarda® (C1 Esterase Inhibitor) Hereditary angioedema

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

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



Idelvion® (Recombinant FIX-FP) Hemophilia B

Hemgenix[®] (AAV FIX gene therapy) Hemophilia B

Afstyla® (Recombinant FVIII) Hemophilia A

Kcentra[®] (Prothrombin complex concentrate) Urgent warfarin reversal

Vamifeport (Oral ferroportin inhibitor) Sickle cell disease, Ph IIa

CSL889 (Hemopexin) Sickle cell disease, Ph I

CSL888 (Haptoglobin) Sub-arachnoid hemorrhage, preclinical development

*ex-USA Our full pipeline can be viewed <u>here</u>

ZEMAIRA[®]/RESPREEZA[®]

Garadacimab (Anti-FXIIa mAb)

Idiopathic Pulmonary Fibrosis,

CSL311 (Anti-β-common mAb)

Airways inflammation, Ph I

CSL787 (Nebulized Ig) Respiratory infections, Ph I

(Alpha 1 Antitrypsin)

Ph IIa



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

CSL300 (Anti-IL-6 mAb) End stage kidney disease Ph IIb



FLUAD Quadrivalent Adjuvanted Influenza Vaccine

FLUCELVAX Quadrivalent Cell-based Influenza Vaccine

Adjuvanted Cell Culture Influenza Vaccine (aQIVc), Ph II

sa-mRNA Influenza Vaccine, PC

ARCT-154 COVID-19 Vaccine, Ph III



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

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

CSL040 (Novel Complement Inhibitor), Ph I

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Areas of interest for collaboration

Areas <u>not</u> of interest

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





Immunology



Novel targets or best-in-class biologic therapeutics addressing:

- 1. B cell and plasma cell depletion or inhibition
- 2. T cell modulation, immune checkpoint agonism or co-stimulatory antagonism, regulatory T cell stimulation or tolerance
- 3. Modulation of cytokines, chemokines and immune-super family members (e.g., TNF, IL-1, other) , particularly approaches enabling multi-pathway inhibition
- 4. Depletion/modulation of innate immune effector cells

Autoimmune diseases:

Inflammatory Idiopathic Myopathies including Dermatomyositis, Primary Sjögren's Syndrome, Pemphigus Vulgaris, Bullous Pemphigoid, Small Fiber Neuropathy, ANCA-Associated Vasculitis and Autoimmune Hepatitis

Not of interest:

Target discovery campaigns or platforms, intracellular targets, complement inhibition



Hematology



Acute hemorrhage control and hemorrhagic stroke

- Novel biologic therapies to treat and prevent acute hemorrhage (e.g. intracerebral hemorrhage (ICH), reversal of anticoagulation/anti-platelet associated bleeding)
- 2. Novel biologic targets and therapies for the treatment of secondary brain injury in subarachnoid hemorrhage and ICH
- 3. Omics approaches for patient stratification and drug discovery

Acute thrombotic conditions (macro- and micro-circulation)

- 1. Novel biologic therapies for targeted fibrinolysis/thrombolysis in acute thrombosis (ischemic stroke, pulmonary embolism)
- 2. Novel biologic therapies to treat and prevent microvascular thrombosis and endotheliopathies (e.g. TMAs, APS and DIC).

Benign hematology adjacencies*

- 1. Novel biologic therapies for the treatment of anemias
- 2. Novel biologic therapies to treat bone marrow disorders



Respiratory



Idiopathic pulmonary fibrosis (IPF), pulmonary sarcoidosis and progressive pulmonary fibrosis (PPF)

- 1. Novel biologic therapies or target proposals derived from translational or biobank cohorts
- 2. Therapies targeted at reversing remodelling of fibrotic lung tissue
- 3. Multiomics-based approaches to target discovery

Community acquired pneumonia (CAP)-associated complications

(Acute Respiratory Distress Syndrome (ARDS), Sepsis, Acute kidney injury)

- 1. Novel biologic therapies or target proposals derived from translational or biobank cohorts
- 2. In Silico approaches for patient stratification to delineate CAP patients at risk for ARDS/Sepsis/AKI



Cardiovascular and Metabolic



Major Adverse Cardiovascular Event (MACE) prevention Atherosclerotic plaque stabilization in severe disease

Rare lipid disorders

Novel targets or biologic therapies (including gene therapies) for rare lipid disorders e.g. homozygous familial hypercholesterolemia

Myocarditis

Novel targets or biologic therapies for myocarditis Biomarker approaches for patient stratification

Inflammatory cardiomyopathies

Novel targets or biologic therapies for inflammatory cardiomyopathies





Acute and chronic solid organ transplant rejection (kidney/lung) therapies

Novel biologic therapies or targets to prevent or treat acute and chronic solid organ transplant rejection of the kidney and lung

Chronic graft versus host disease (GvHD)

Novel biologic therapies for the treatment and prevention of chronic GvHD

Tolerance for organ transplant rejection

Novel biologic therapies for the induction of tolerance to prevent or treat organ transplant rejection



Vaccines



Respiratory vaccines

- . New antigenic targets (epitopes or combinations)
- 2. Methods (e.g. Al/machine learning) to predict respiratory viral evolution/pathogenicity to inform vaccine development

New vaccine targets

Development of novel targets/approaches for any disease

RNA delivery and therapeutics

- I. RNA delivery, enhanced stability, route of administration and/or expression strategies
- 2. mRNA-encoded protein therapies encompassing cellular targeting technologies

Immune mechanisms

Understanding innate and adaptive responses to vaccines



Core interests for early stage partnering

Gene editing / genomics

- 1. Improve insertional editing efficiencies in vivo
- 2. Genetic elements enhancing regulation of cells of the immune system (e.g. promoters and enhancers)

In vivo Delivery

- 1. Delivering nucleic acid templates for insertional gene editing
- 2. Targeting moiety for HSCs

GT safety

Technologies that minimize SAEs from insertional gene editing

Areas not of interest

- Oncology (including hematological malignancies)
- Ex vivo cell therapy

Cell & Gene Therapy



Plasma Protein Research



Novel plasma therapeutic candidates

- 1. All diseases considered. Candidates aligned with CSL's therapeutic areas will be prioritized
- CSL can provide native human plasma proteins (≥ µg/L plasma concentration) for preclinical proof-of-concept studies

Novel association of plasma protein function with disease

- 1. Based on healthy and patient clinical data sets, or
- 2. Access to patient data sets with corresponding clinical data to enable association studies to be performed

Novel methods for plasma protein purification

Protein purification systems capable of targeted purification from plasma with high purity at research scale (methods translatable to manufacturing scale will be prioritized)

Checklist for 2024 Research Acceleration Initiative





Questions



THANK YOU

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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 authorization (including where relevant after consultation with all relevant commercialization 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 organization authorized 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 organization.

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 organization (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.