

ASX ANNOUNCEMENT

INVESTOR DECK – to be presented at the Stockhead V-Con on Biotechs

30 June 2021

Melbourne, Australia: Exosome medicine company Exopharm Limited (ASX:EX1) advises that it will be presenting the attached Investor Deck at today's Stockhead V-Con on Biotechs.

This presentation provides updates on the exosome technology and exosome medicines programs at Exopharm.

This announcement has been approved by the Board for release to the ASX.

Company and Media Enquiries:

Join our mailing list to receive updates:

<http://exo.ph/ExoMails>

www.exopharm.com

P: +61 (0)3 9111 0026

Rudi Michelson
Monsoon Communications
Tel: +61 (0)3 9620 3333
rudim@monsoon.com.au

ABOUT EXOPHARM

Exopharm (ASX:EX1) is a clinical stage biopharmaceutical company using exosomes (extracellular vesicles (EVs)) from cells to generate a new class of precision medicines and regenerative medicines.

Various Exopharm EV products harness the powerful natural ability of EVs to efficiently target cells and transfer selected materials into cells and across barriers.

Exopharm has two exclusive proprietary technologies that extend the utility of EVs into engineered EV medicines (EEVs): the LOAD technology improves loading of nucleic medicines into EVs, and the EVPS technology allows EVs to be directed towards selected cell types. Exopharm uses combinations of LOAD and EVPS to develop a pipeline of EEV products aimed at treating a wide scope of medical problems including neurological diseases, infectious diseases, cancer, and fibrosis.

Exopharm's LEAP technology solves the challenge of purifying EVs at large scale. With LEAP, Exopharm is also developing naïve (or natural) EVs (NEVs) from adult stem cells and platelets as regenerative medicine products. NEVs have the potential to deliver the regenerative benefits of cells without the challenges of administering cells to patients. NEV products target a broad range of medical problems including osteoarthritis, autoimmune conditions, acute injury and chronic injury.

FORWARD LOOKING STATEMENTS

This announcement contains forward-looking statements which incorporate an element of uncertainty or risk, such as 'intends', 'may', 'could', 'believes', 'estimates', 'targets', 'aims', 'plans' or 'expects'. These statements are based on an evaluation of current corporate estimates, economic and operating conditions, as well as assumptions regarding future events. These events are, as at the date of this announcement, expected to take place, but there cannot be any guarantee that such events will occur as anticipated or at all given that many of the events are outside of Exopharm's control or subject to the success of the Development Program. Furthermore, the Company is subject to several risks as disclosed in the Prospectus dated 6 November 2018.

INHERENT RISKS OF INVESTMENT IN BIOTECHNOLOGY COMPANIES

There are a number of inherent risks associated with the development of biopharmaceutical products to a marketable stage. The lengthy clinical trial process is designed to assess the safety and efficacy of a drug prior to commercialisation and a significant proportion of drugs fail one or both of these criteria. Other risks include uncertainty of patent protection and proprietary rights, whether patent applications and issued patents will offer adequate protection to enable product development, the obtaining of necessary drug regulatory authority approvals and difficulties caused by the rapid advancements in technology. Companies such as Exopharm are dependent on the success of their research and development projects and on the ability to attract funding to support these activities. Investment in research and development projects cannot be assessed on the same fundamentals as trading and manufacturing enterprises. Therefore, investment in companies specialising in drug development must be regarded as highly speculative. Exopharm strongly recommends that professional investment advice be sought prior to such investments.



Exopharm Ltd

Delivering Transformative Medicines

June 2021

IMPORTANT INFORMATION

Purpose of presentation: This presentation (including this document, any related video or oral presentation, any question and answer session and any written or oral material discussed or distributed in relation to this presentation) has been prepared by Exopharm Limited (ACN 163 765 991) (Exopharm or Company). This presentation is intended for sophisticated or professional investors (as those terms are defined in the Corporations Act 2001 (Cth)), and their professional investment advisors and has been prepared for the sole purpose of providing general high-level information on Exopharm and its operations.

Not an offer or solicitation: This presentation is not investment advice nor an offer to subscribe for securities or otherwise invest in Exopharm, and it should not be relied upon to make any investment decision.

Nature of presentation: This presentation is not a prospectus, product disclosure statement or other investment disclosure document, and the level of disclosure in this presentation is less than such disclosure documents. This presentation does not purport to contain all of the information that a prospective investor may require to make an evaluation of Exopharm or its business activities and nothing in this presentation is, or is intended to be, a recommendation to invest in Exopharm. Exopharm does not purport to give financial or investment advice. No account has been taken of the objectives, financial situation or needs of any recipient of this presentation.

Forward-looking statements: This presentation may contain forward-looking statements which may be predictive in nature and incorporate an element of uncertainty or risk, such as 'intends', 'may', 'could', 'believes', 'estimates', 'targets' or 'expects'. These statements are based on an evaluation of current economic and operating conditions, as well as assumptions regarding future events. These events are, as at the date of this presentation, expected to take place, but there cannot be any guarantee that such will occur as anticipated, or at all, given that many of the events are outside Exopharm's control. The stated events may differ materially from results ultimately achieved. Accordingly, neither Exopharm nor any of its directors, employees, contractors or advisors make any warranty or assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this presentation will actually occur. Further, other than as required by law, Exopharm may not update or revise any forward-looking statement if events subsequently occur or information subsequently becomes available that affects the original forward-looking statement.

Disclaimer: Neither Exopharm nor its officers, employees, contractors or advisors give any warranty or make any representation (express or implied) as to the accuracy, reliability, relevance or completeness of the material contained in this presentation. Nothing contained in this presentation is, or may be relied upon as a promise, representation or warranty, whether as to the past or the future. Except for statutory liability which cannot be excluded, Exopharm, its officers, employees, contractors and advisors expressly disclaim any responsibility for the accuracy or completeness of the material contained in this presentation and exclude all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in this presentation or any error or omission therefrom.

Professional advice: Recipients of this presentation should consider seeking appropriate professional financial, taxation and legal advice in reviewing the presentation and all other information with respect to Exopharm and evaluating its business, financial performance and operations.

Confidentiality and copyright: While this is a non-confidential presentation, it still provides confidential and commercially sensitive information which is provided for the intended recipient only. Organisations or Persons viewing this presentation must not disclose the presentation or its contents to any third parties other than external consultants of the recipient for the purposes of obtaining a professional review, financial, taxation or legal advice, or as required by law or court order. Exopharm holds the copyright in this paper. Except as permitted under the Copyright Act 1968 (Cth), this paper or any part thereof may not be reproduced without Exopharm's written permission.

Exopharm Ltd

Overview

- Australian clinical-stage company at the forefront of developing transformative medicines based upon exosomes (extracellular vesicles, EVs)
- 40 staff based in Melbourne, Australia; 1 based in Europe
- Publicly traded on the ASX (ASX:EX1) (listed Dec 2018)
157.1 million shares on issue, current market cap.
~AU\$100 million
- A platform technology company with application to many exosome medicines – using our exclusive LEAP, LOAD and EVPS technologies

Priorities

- Leading the emerging exosome field through our exosome technologies and exosome medicines
- Making exosome technologies available to established biopharmaceutical companies to empower the processes underpinning exosome manufacture
- Delivering existing and emerging drug candidates through precision exosome medicines



Exosomes: Nature's Solution to Delivery in the Body

Exosomes (also referred to as extracellular vesicles or EVs) are **natural, multifunctional and stable nanoparticles that transfer cargo and messages between cells.**

Natural exosomes can be produced from cells in a bioprocessing facility.

1. PACKAGE

Outer membrane that forms the exosome (same membrane as human cells)

2. ADDRESS

External proteins that improve targeting of exosomes to specific cell types

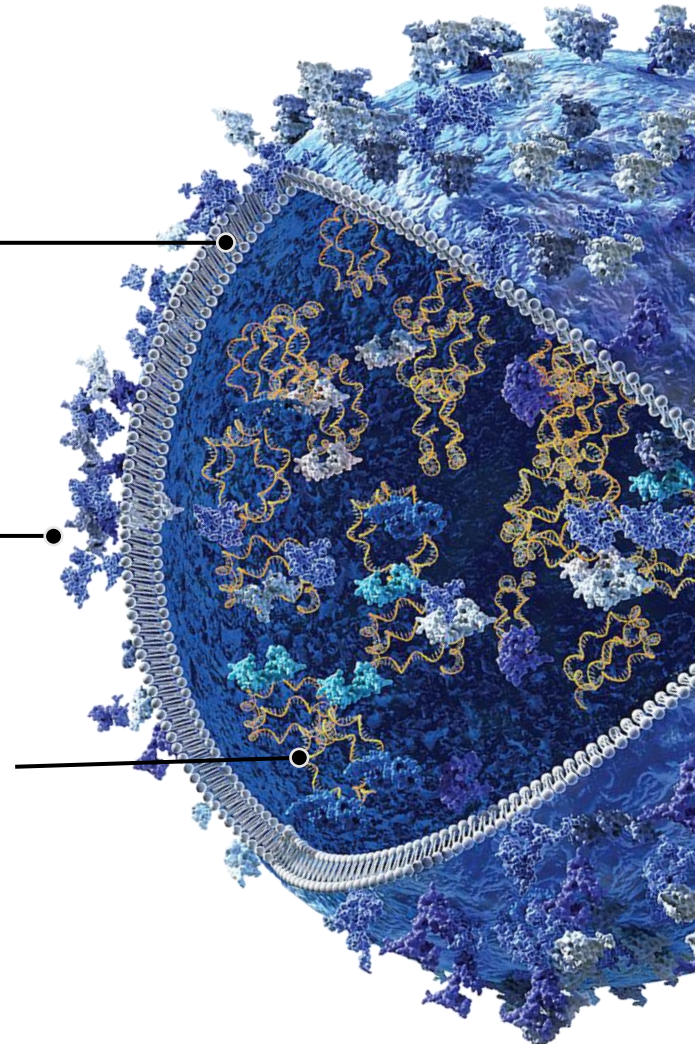
3. CARGO

The materials delivered by exosomes, including instructions (RNA) and building materials (lipids, enzymes, proteins)

1. PACKAGE LIPID BILAYER

2. ADDRESS PROTEINS

3. CARGO RNA, PROTEINS, & LIPIDS



Uncovered by Scientists in 2007, in 2021 Exosomes are Emerging as a New Frontier in Medicines Delivery

“

Exosomes represent a dynamically growing segment in life sciences with opportunities in research, diagnostics and therapeutic applications.

Dr Uwe Gottschalk,
Chief Technology Officer
for Lonza (2017)

”

“

Targeted and non-targeted exosomes offer a highly differentiated platform with the potential to enhance tissue delivery for a variety of payloads like mRNA and proteins.

Dr Madhu Natarajan, Head of the
Rare Diseases Drug Discovery Unit
at Takeda (2020)

”

“

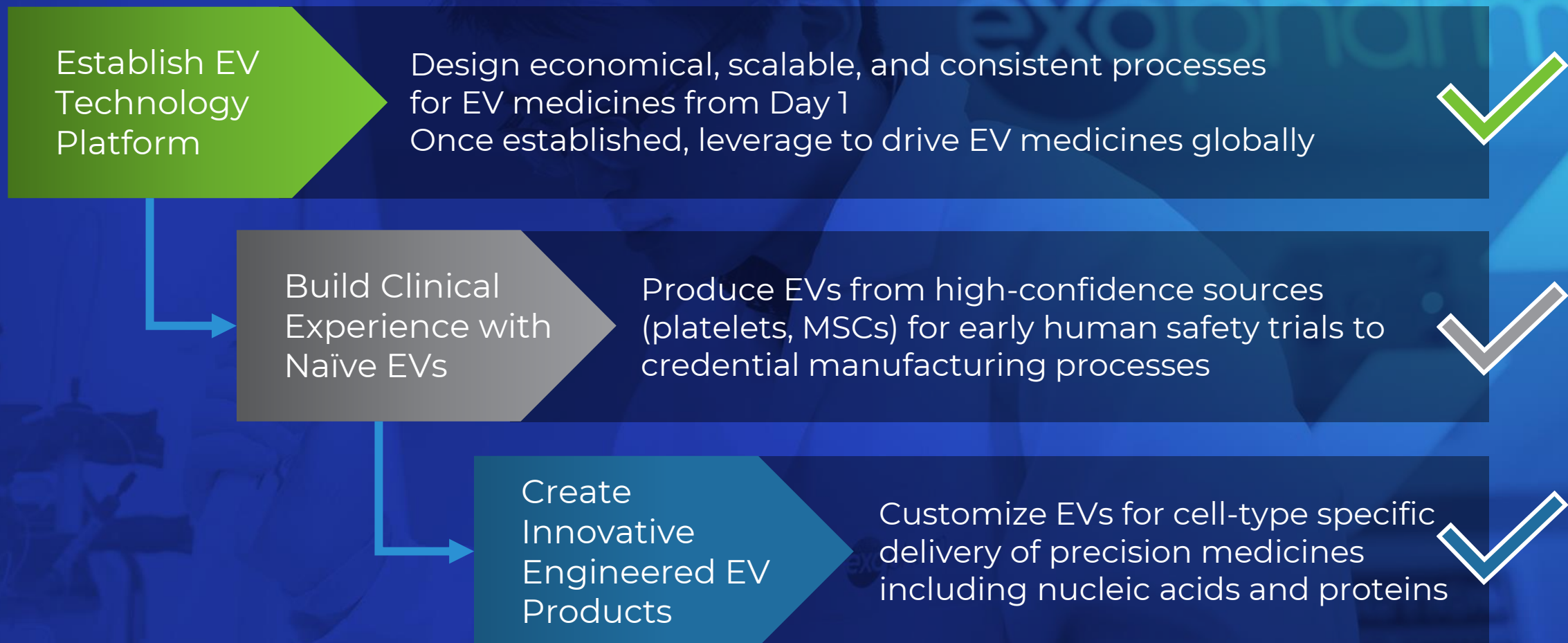
Now is the time for researchers to usher in a new era of therapeutic possibilities using RNA-delivering, natural exosome vesicles.

Professor Phillip Askenase MD,
Yale University School of
Medicine (2020)

”

Exopharm is at the forefront of exosome medicines

From Platform to Products, Exopharm's EV Medicine Strategy



Three Unique & Powerful Technologies Underpin our Partnering and Exosome Medicines

Exclusivity

LEAP

Scalable, economical GMP process for purifying exosomes

100% Exopharm

EVPS

Tropism-conferring approach for engineering exosome surface proteins

100% Exopharm

LOAD

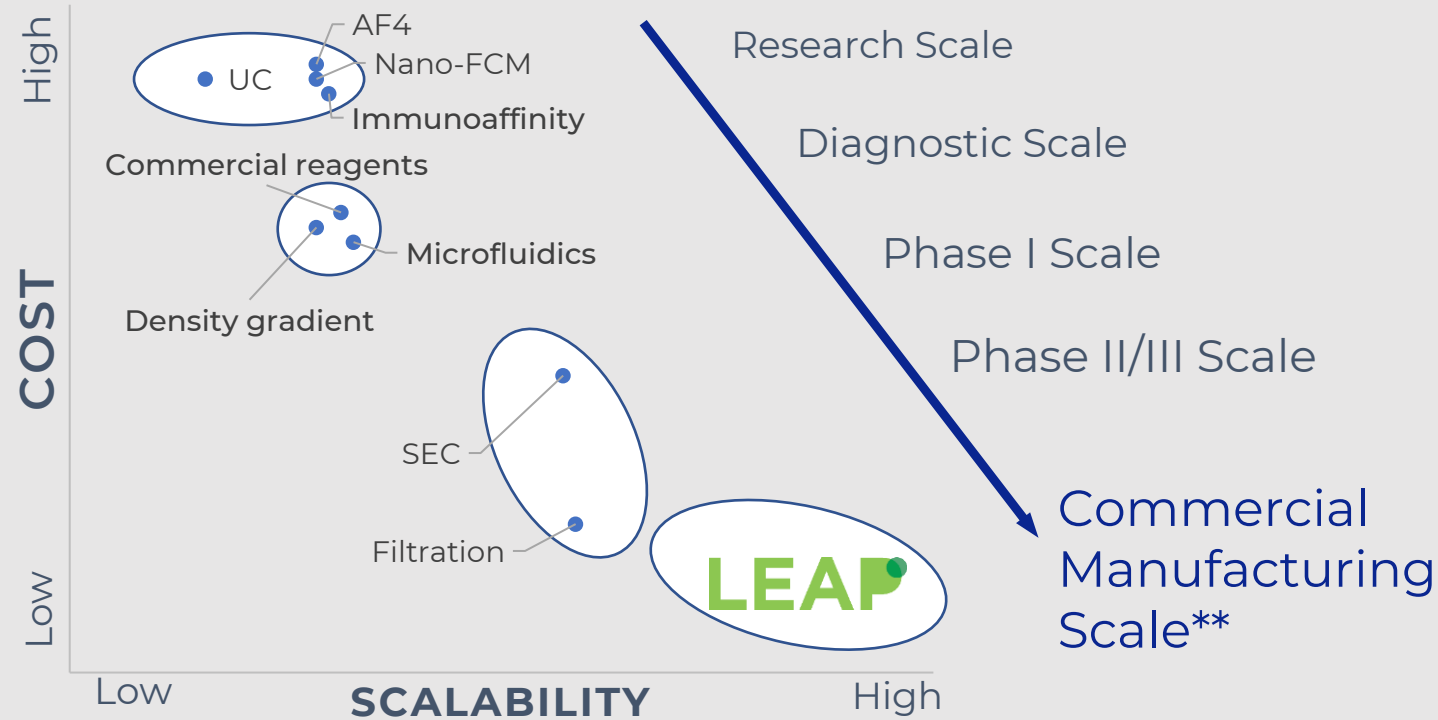
Activity enhancing method for delivering RNA by exosomes

100% Exopharm

EVPS US patent is granted, LOAD patent is progressing and LEAP patent is granted in Russia and progressing through national phase in USA under fast-track process.

Exopharm Has the Only Known Technology for Commercial-scale Exosome Medicine Purification

State of the Art, Exosome Purification as of June 2020*



Unlike all alternatives, LEAP technology:

1. Uses industry-standard equipment/processes
2. Uses low-cost, reusable consumables
3. Scales economically beyond thousands of doses
4. Is proprietary (i.e. patent applied for)

LEAP unlocks the potential of Exosome Medicines

** LEAP assessment from Exopharm, based on industrial use to date; LEAP Patents processing through National phases at present.

* Adapted from <https://doi.org/10.1016/j.tibtech.2020.05.012>

SARS-CoV-2 RNA Vaccines Use “Artificial Exosomes”

Pfizer and Moderna SARS-2 vaccines package RNA into artificial synthetic lipid nanoparticles (LNPs)

However, LNPs have **major limitations for drug delivery:**

- Toxicity
- Anti-LNP immune response
- Inefficient cellular delivery

Naturally occurring exosomes from human cells have evolved an optimal composition over billions of years **and have none of these limitations.**



nature

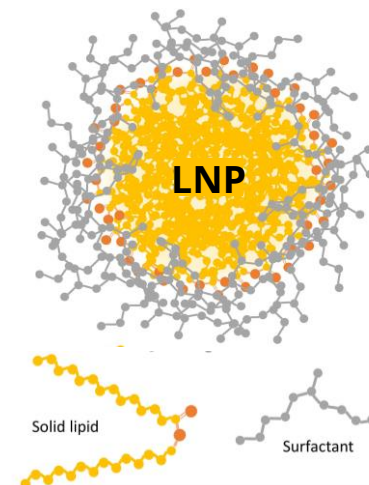
NEWS FEATURE • 12 JANUARY 2021

How COVID unlocked the power of RNA vaccines

The technology could revolutionize efforts to immunize against HIV, malaria, influenza and more.

Elie Dolgin

Solid lipid nanoparticle



DOI: 10.3389/fmolb.2020.587997

LEAP Exosomes Overcome Significant Issues Associated with LNP Delivery

	Lipid Nanoparticles	Exosomes
Targeting	Yes	Yes
Stability	Yes	Yes
Efficient Uptake	No	Yes
Non-toxic	No	Yes
Frequent dosing	No	Yes
Scalability without LEAP (Manufacture/Purification)	Yes	No
Scalability with Exopharm's LEAP Technology		YES

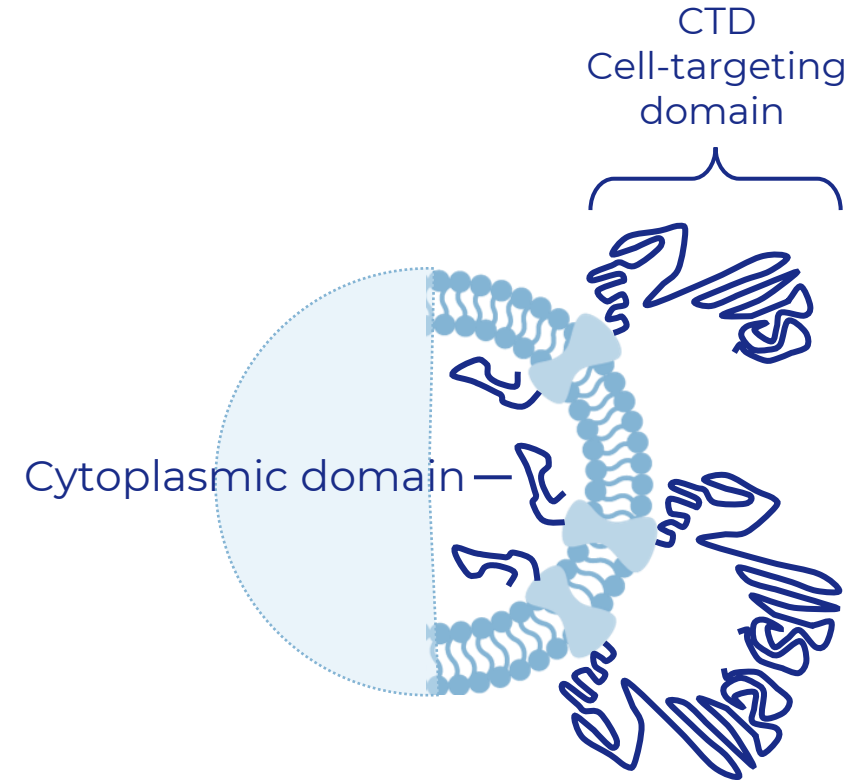
EVPS Construct

Cargo: Cytoplasmic domain for reporter proteins (or anti-viral) carried as cargo

VSVg: Transmembrane domain passes through cell and exosome bilipid layers

CTD: Cell-targeting domain, a protein used by to enter cells (such as a viral coat protein, nanobody, cell-penetrating peptide, etc)

Note: VSVg = vesicular stomatitis virus glycoprotein



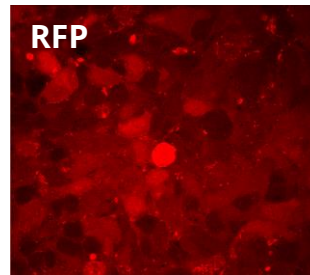
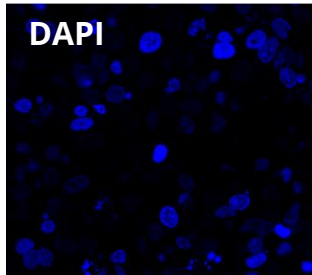
Exosome from EVPS modified producer cell

EVPS

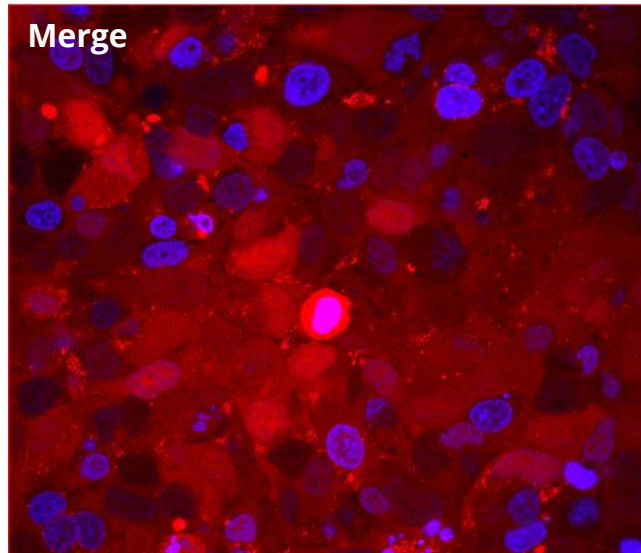
Confocal Imaging of Stable Spike-RFP

Stable Cell line

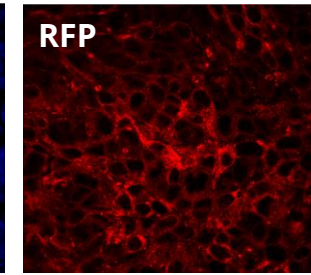
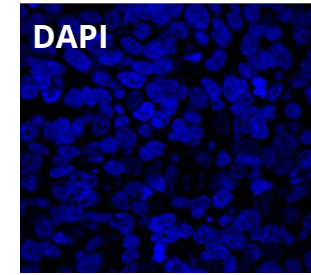
RFP



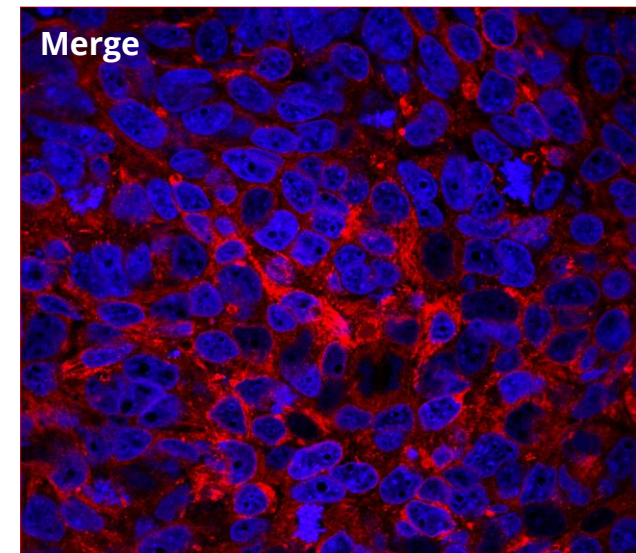
RFP
everywhere
within the
cell



RFP control vector

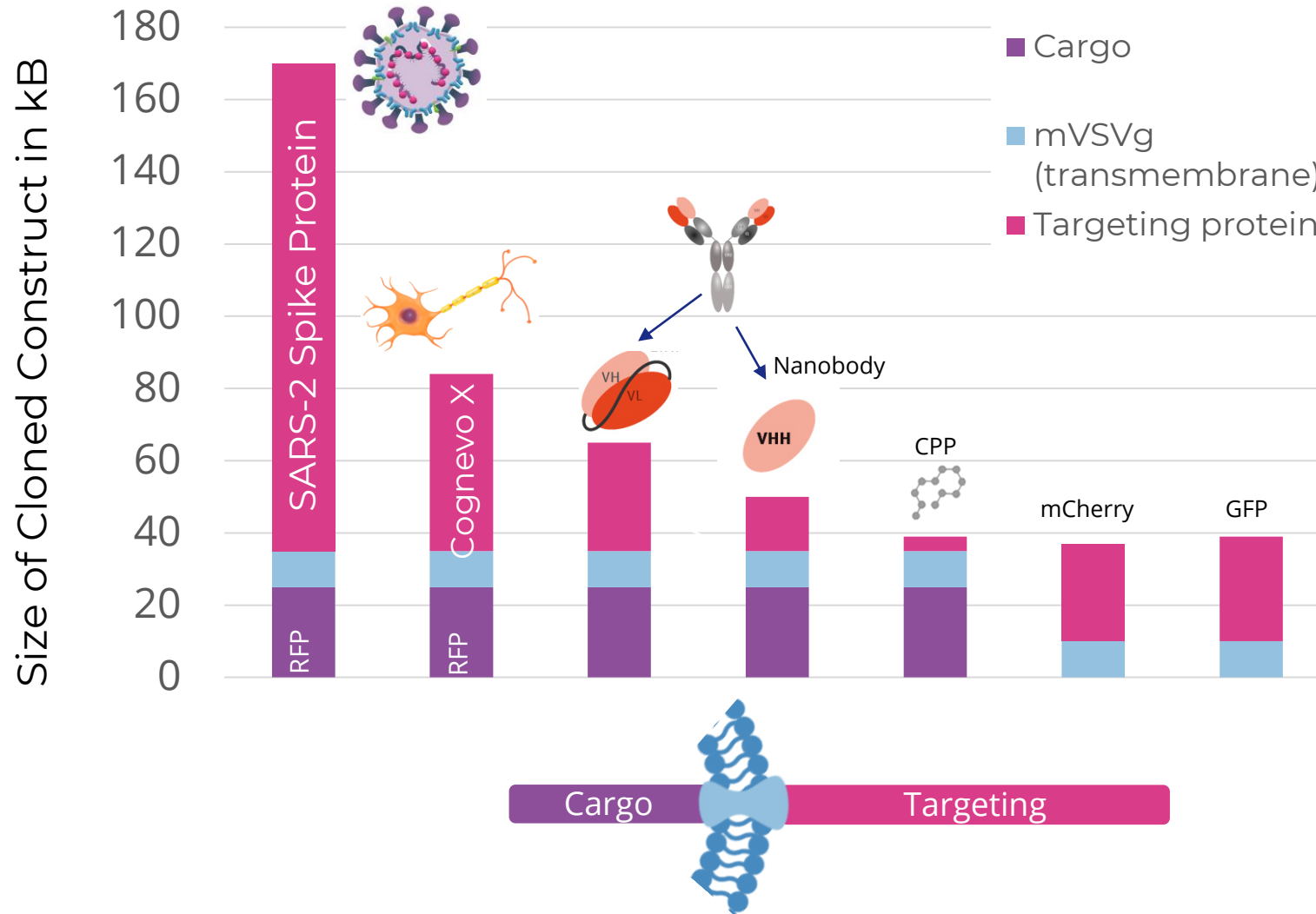


'Membrane-
localized'
RFP
expression



CoV-S EVPS Construct # 3R

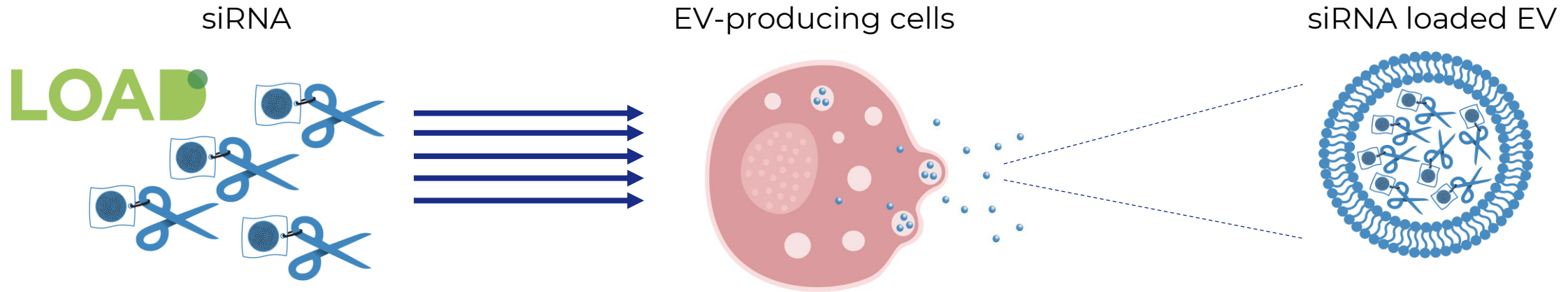
EVPS Technology Proven with Large Targeting Moieties



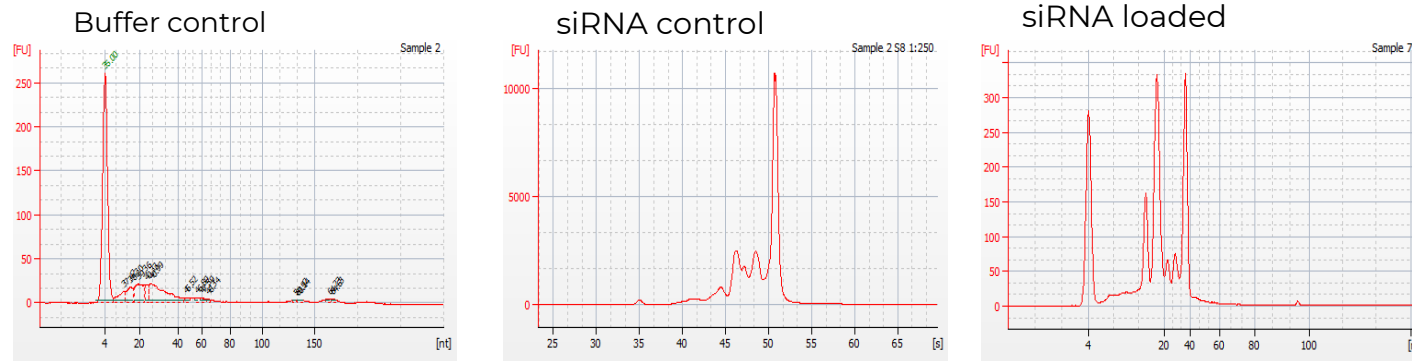
Using EVPS construct, very large proteins can be expressed by stable producer cell lines.

Technology can be applied to wide range of targeting proteins and/or large protein cargoes

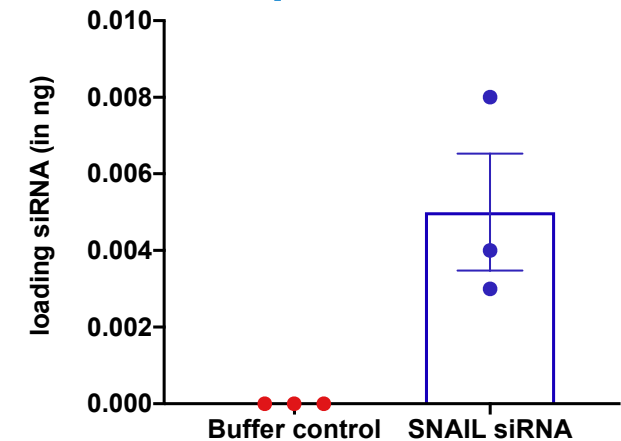
LOAD Creates High Copy-number EVs



Analysis by Bioanalyzer



qRT-PCR



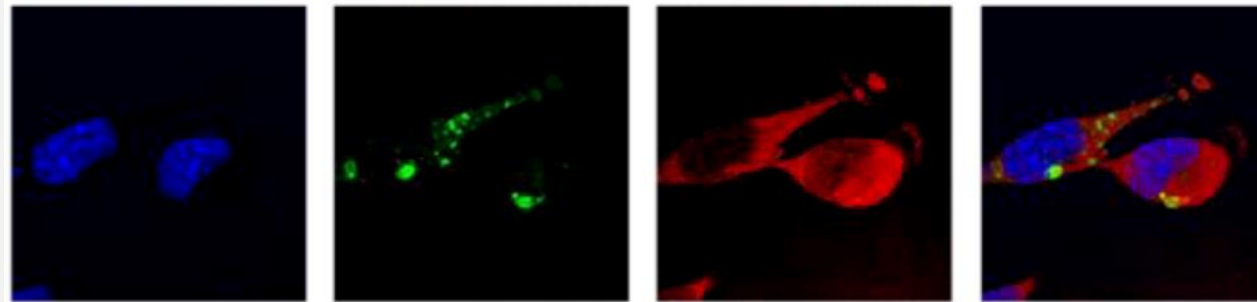
Depending on the conditions, siRNA copies per EV typically are between 500 – 1000

LOAD Localizes RNA into EVs

Standard approach

Producer cells electroporated with siRNA

siRNA evenly across the cytoplasm



Nuclei

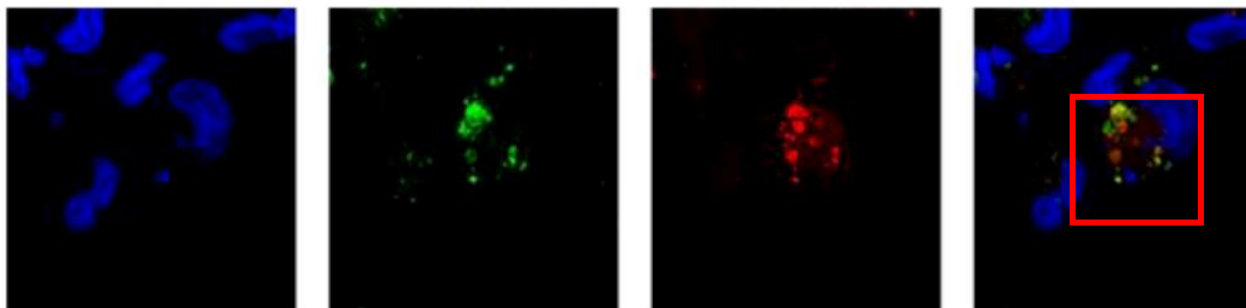
EVs (cd63)

siRNA

Merge

LOAD

Producer cells electroporated with LOAD powered siRNA



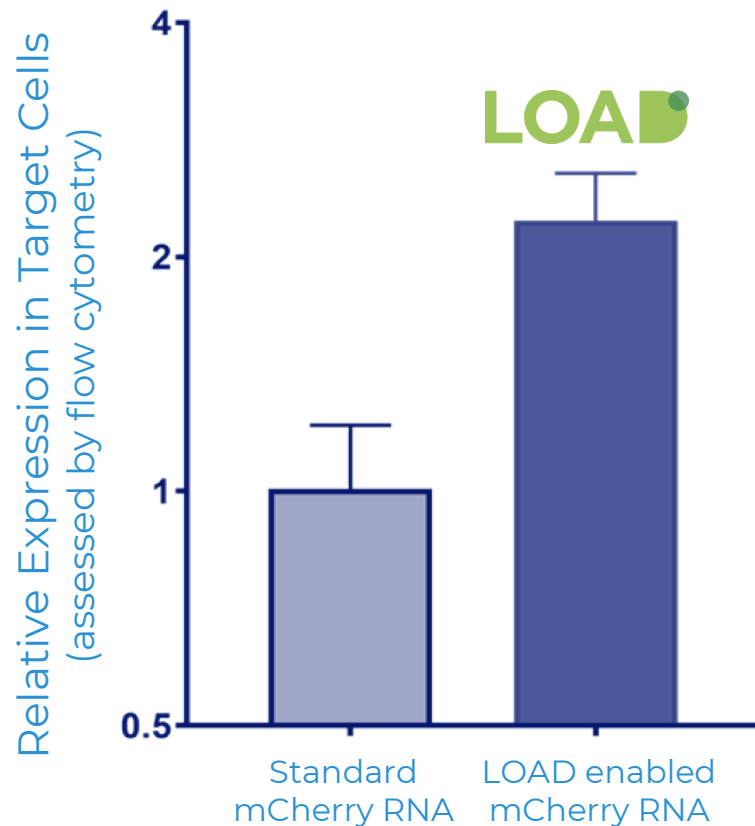
siRNA is localized within EVs;
enrichment factor of 10 – 100x

LOAD technology enriches RNAi near EV biogenesis sites

Therapeutic effect/cost of delivery improve substantially using LOAD technology

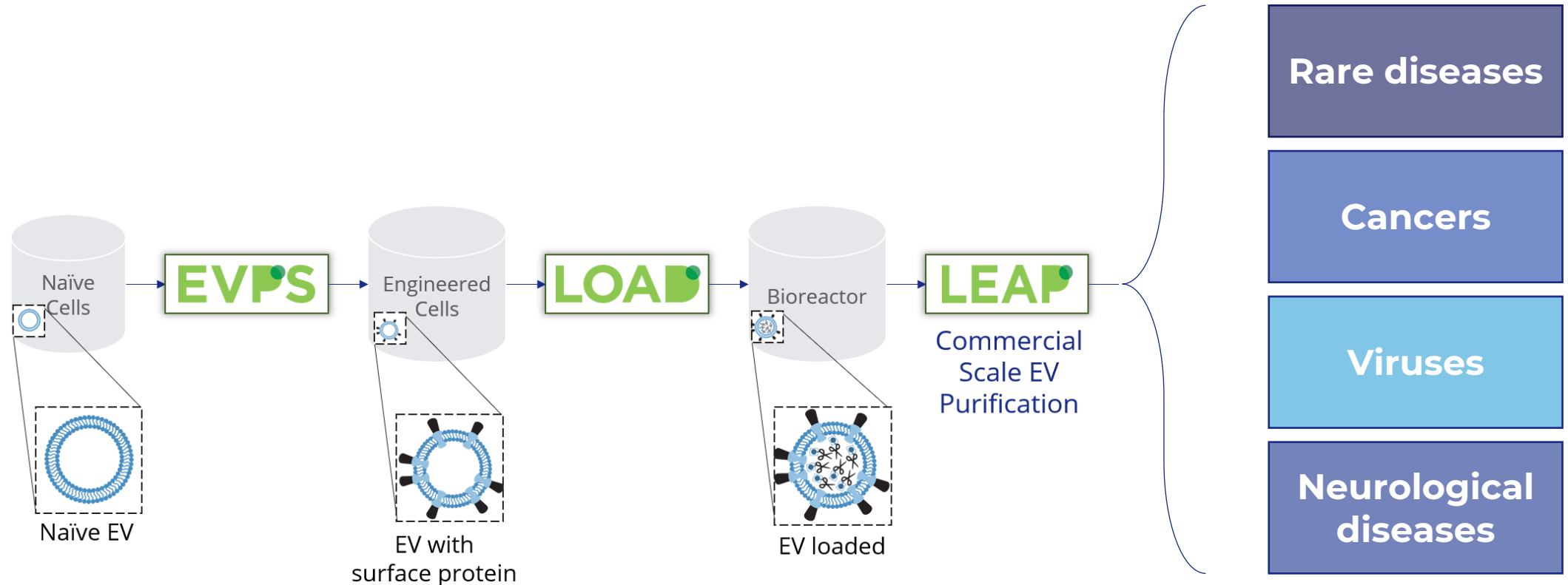
LOAD Enhances Cargo Effect

mCherry protein expression in cells
treated with EVs containing mCherry RNA



RNA	Status	2021 Plans
siRNA (~20 bases)	<input checked="" type="checkbox"/>	Sars-COV2 siRNA
mCherry (~700 bases)	<input checked="" type="checkbox"/>	
CFTR-GFP (~6.5k bases)	<input type="checkbox"/>	Currently in progress
...	<input type="checkbox"/>	

Together these Technologies Create a Precision Medicine Factory



Right Place, Right Time, Right People



McKinsey
&Company



TERUMOBCT





Thank you

Exopharm Ltd (ASX:EX1)

Chris Baldwin

Deputy CEO/Chief Commercial Officer

+61 450 290 280

chris.baldwin@exopharm.com

www.exopharm.com