ASX ANNOUNCEMENT

Exopharm presents at Bio CEO & Investor Digital Conference

16 February 2021, Melbourne, Australia: Exopharm Limited (ASX:EX1) announces that the Chief Commercial Officer, Dr Chris Baldwin, will present to the *Bio CEO & Investor Digital Conference* on 16 - 18 February 2021.

Dr Baldwin's presentation entitled *"The Global Growth of EV Medicines and the Year We LEAP"* is attached.

By the Board - this announcement has been authorised for release by the Board.

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ABOUT EXOPHARM

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

The Global Growth of EV Medicines and the Year We LEAP

Investor Presentation

16 February 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.

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Exopharm Ltd

Overview

- Exopharm is a clinical stage company at the forefront of developing transformative medicines based upon exosomes (EVs)
- 40 staff based in Melbourne, Australia; 2 staff based in Europe
- Publicly-traded on the ASX (ASX:EX1) (listed Dec 2018) Current market cap: AU$ ~100 million, 139 million shares on issue

Priorities

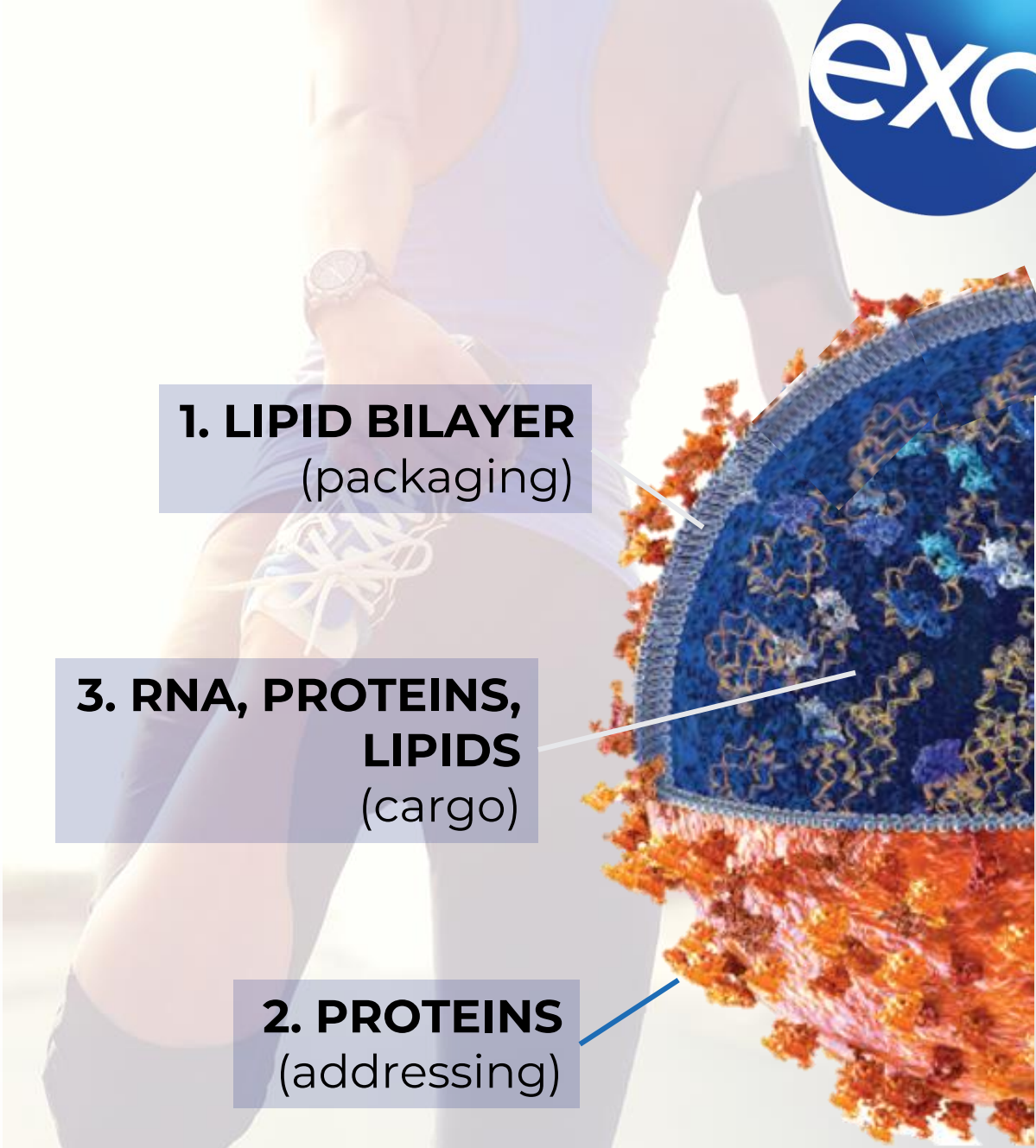
- Empower exosome medicine discovery globally
- Build general EV engineering, manufacturing and characterization platform
- Establish regulatory pathways for EV products through early phase clinical development
- Partner with established biopharmaceutical companies to ensure the broadest application of the technology possible
- Generating revenue

EVs: Nature's Solution to Cellular Coordination

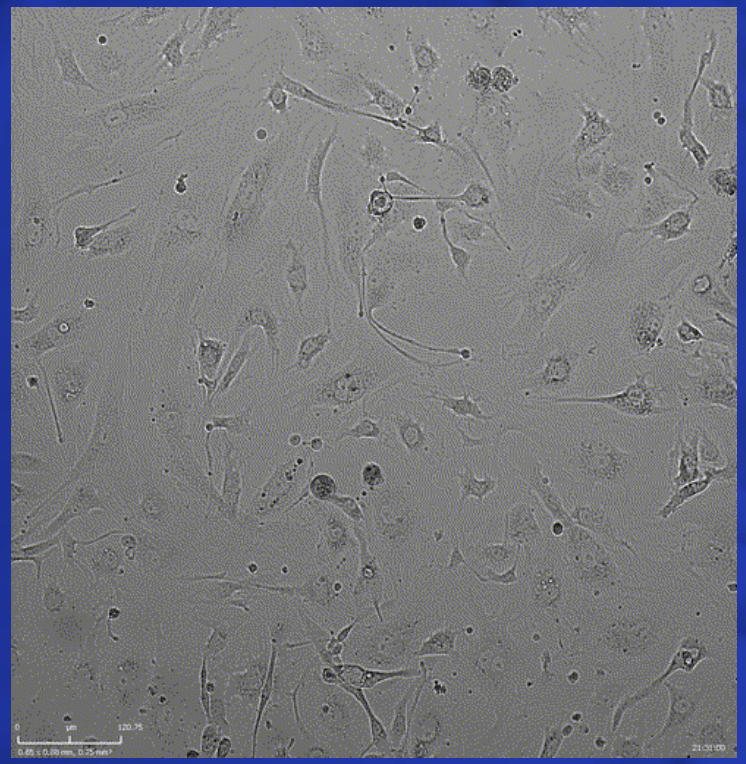
Extracellular Vesicles (or EVs, also referred to as exosomes) are **natural nanoparticles that transfer cargo between cells**

EVs consist of three parts:

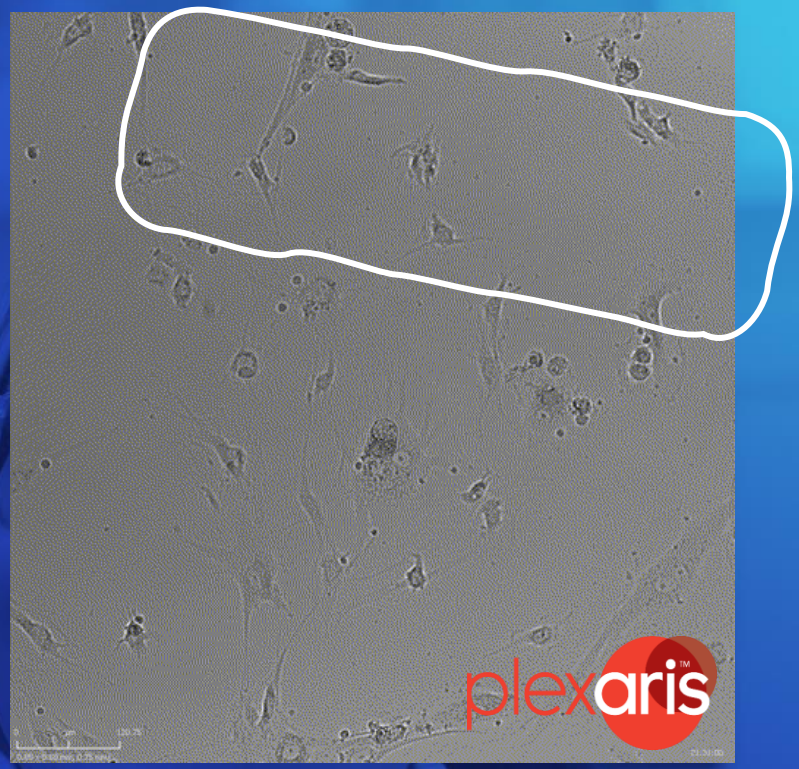
1. **Package**: Outer membrane that forms the EV
2. **Address**: External proteins that determine which cells receive an EV
3. **Cargo**: Instructions (RNA) and building materials (proteins)



Our EVs Coordinate Cells to Build Structure



Alone, human endothelial cells have no coordination



With Plexaris, the cells quickly coordinate and form structure

RNA Vaccines Use “Artificial EVs”

Pfizer and Moderna vaccines deliver RNA to cells using artificial nanoparticles (LNPs)

However, LNPs have major limitations for drug delivery:

- Anti-LNP immune response
- Lack of specific address
- Inefficient cellular uptake

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

EVs overcome all biological limitations of LNPs

But without economical purification, EVs have not been a legitimate option

Human Evidence for EV Medicines Creates Value for Exopharm

Promising global results

TEL AVIV HOSPITAL HAILS 'A HUGE BREAKTHROUGH'

New Israeli drug cured 29 of 30 moderate/serious COVID cases in days — hospital

Medicine developed at Ichilov moderates immune response, helps prevent deadly cytokine storm, researchers say; 29 of 30 phase 1 trial patients left hospital within 3-5 days

By TOI STAFF
5 February 2021, 3:29 pm | 48

129,736 shares

Codiak Reports Additional Positive Phase 1 Results for exoIL-12™ Confirming Local Pharmacology and Dose Selection for Safety and Efficacy Trial in Early-Stage Cutaneous T Cell Lymphoma (CTCL) Patients

Codiak BioSciences, Inc.
4 February 2021 · 8-min read

– Pharmacodynamic results confirm localized exoIL-12 pharmacologic activity

But without LEAP*:

Scaling up to Phase II trials will be very **expensive**

Scaling to Phase III or commercial will be **near impossible**

* or some new discovery

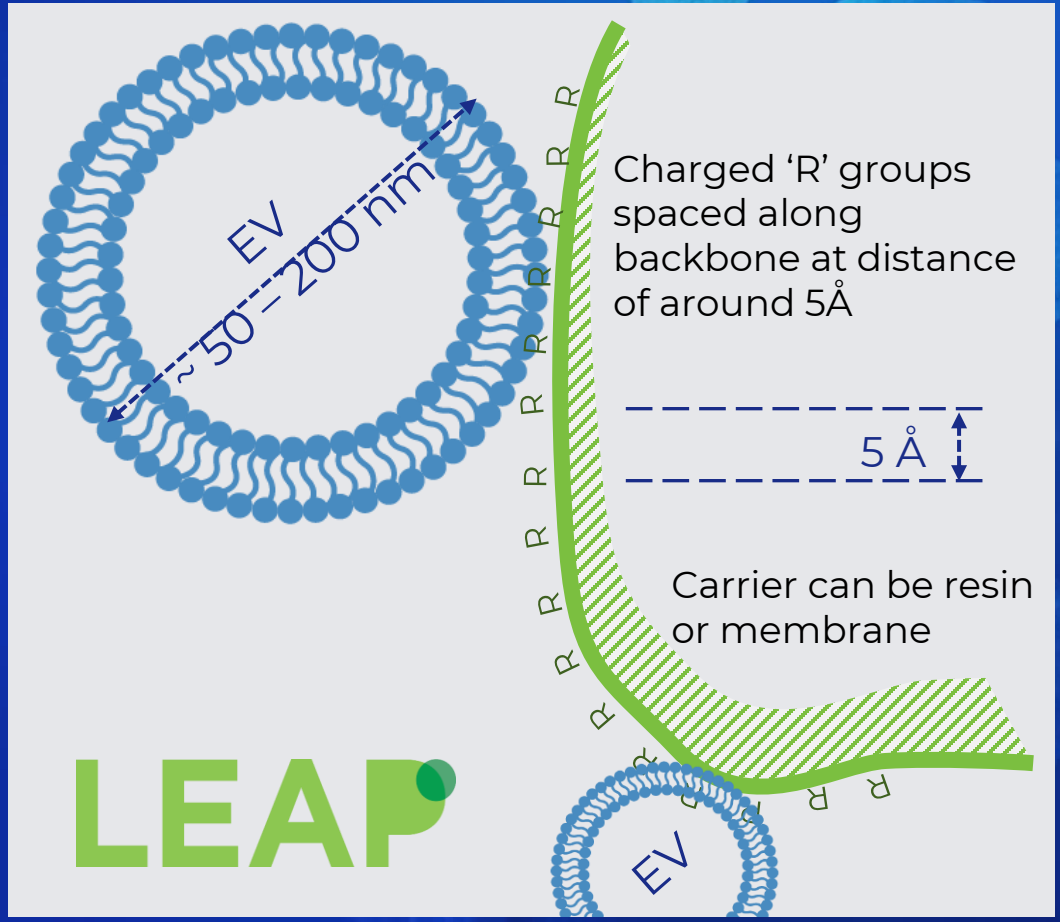
Every new result increases the potential value of LEAP

Every new result de-risks Exopharm's EV programs

LEAP: Starting with the End in Mind

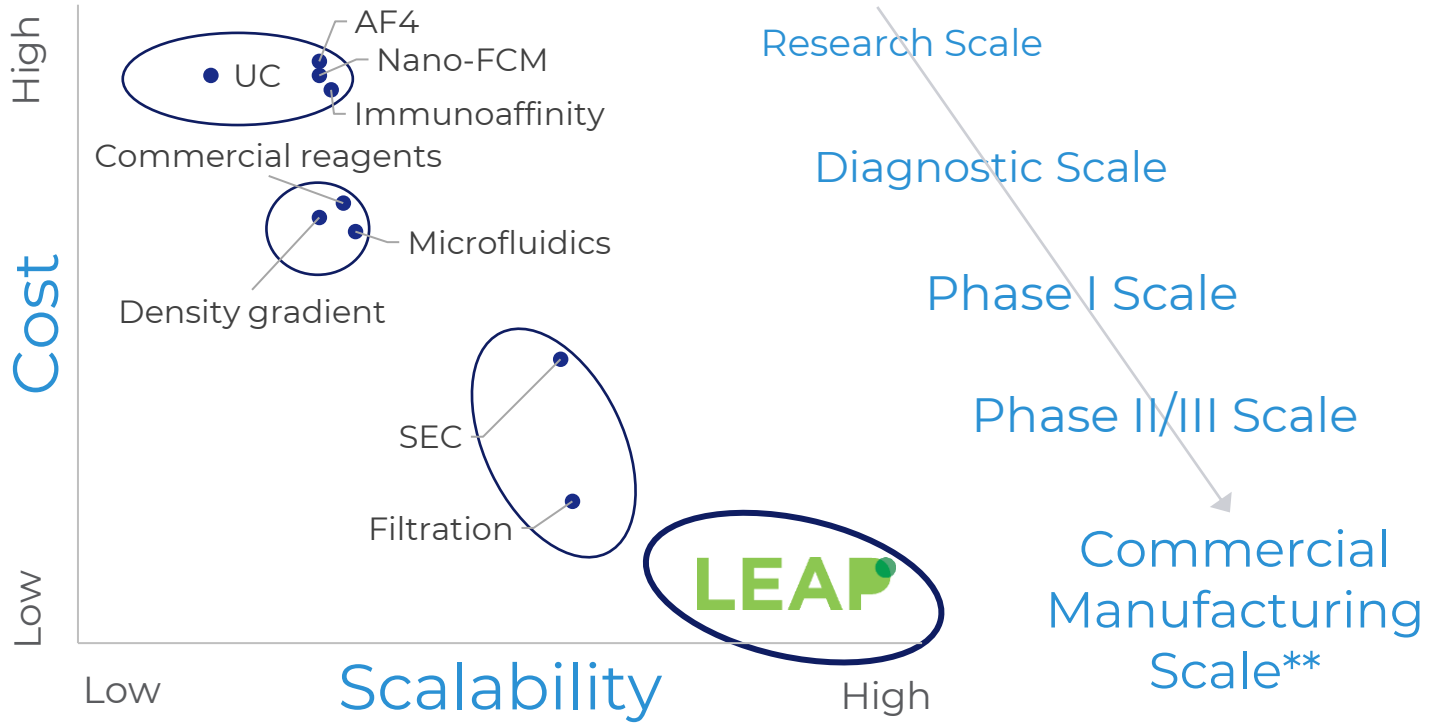
Scalable, economical GMP process for purifying EVs

- Initially developed in 2016
- Wholly owned by Exopharm
- A specific class of cation exchange media can purify EVs, even though EVs have a net negative charge
- This discovery of this use applies to commercially available resins from leading manufactures



LEAP is the Only Known Technology for Commercial-scale EV Purification

State of the Art, EV 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

Technologies and Standardization in Research on Extracellular Vesicles

Srujan Gandham,[1,4] Xianyi Su,[2,4] Jacqueline Wood,[2,4] Angela L. Nocera,[1] Sarath Chandra Alli,[2,3] Lara Milane,[1] Alan Zimmerman,[2] Mansoor Amiji,[1] and Alexander R. Ivanov[2,*]

** 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

LEAP IP Bridges Between Existing Purification Tools and the EV Market

Companies with assets covered by LEAP IP

cytiva

SARTORIUS

Astrea Bioseparations

REPLIGEN
INSPIRING ADVANCES IN BIOPROCESSING

MERCK

thermo scientific

LEAP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(19) World Intellectual Property Organization
International Bureau
(43) International Publication Date
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WIPO | PCT
(10) International Publication Number
WO 2019/241836 A1

Companies developing EV medicine pipeline

SAREPTA THERAPEUTICS

Lilly

CSL

Roche

Jazz Pharma

Takeda

Lonza

Punainen Risti
Röda Korset

From Platform to Products, Exopharm's EV Medicine Strategy

Establish EV Technology Platform

Design economical, scalable, and consistent processes for EV medicines from Day 1
Once established, leverage to drive EV medicines globally

Build Clinical Experience with Naïve EVs

Produce EVs from high-confidence sources (platelets, MSCs) for early human safety trials to credential manufacturing processes

Create Innovative Engineered EV Products

Customize EVs for cell-type specific delivery of precision medicines including nucleic acids and proteins

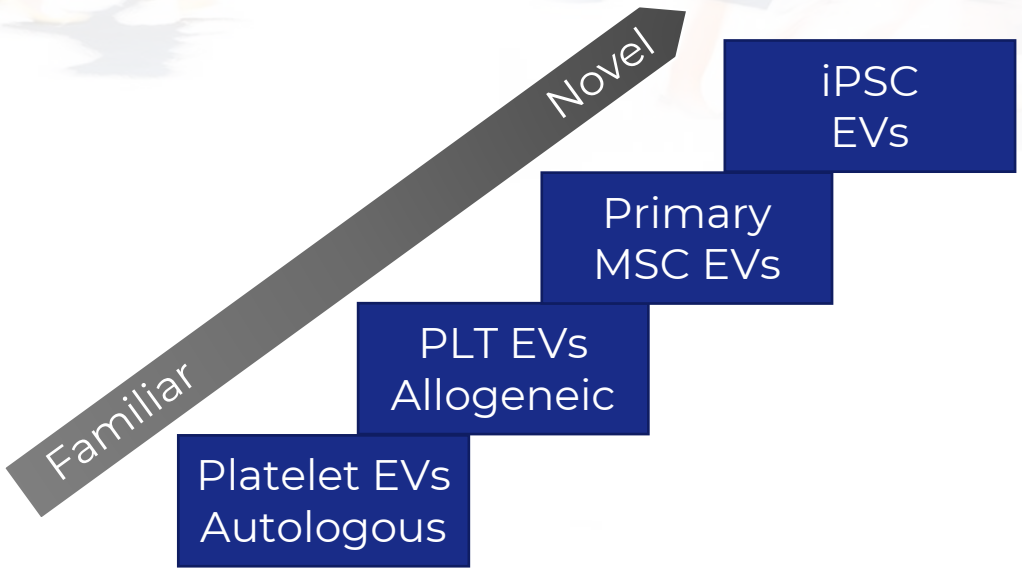
Today, LEAP Presents Four Distinct Paths to Revenue ("LEAP Inside")

1. Internal Program Enablement
   - All Naïve and Engineered EV Products
   - Very large upside, slower to monetise (> 3 yrs)
2. Branded LEAP Columns Sold to Academic Researchers
   - Small, quick potential (< 1 yr)
   - Exploring OEM partners
3. Know-how/Tech Transfer to Biotechs seeking to scale
   - Potential collaboration agreements with peer EV companies and pharma companies building internal EV expertise
   - Considerable medium term revenue (1 – 3 yrs)
4. Licenses for Commercial Use
   - Multiple alternatives leading to LEAP enabling entire EV medicine field
   - Major long-term revenue stream (>4 yrs); exploring revenue partner

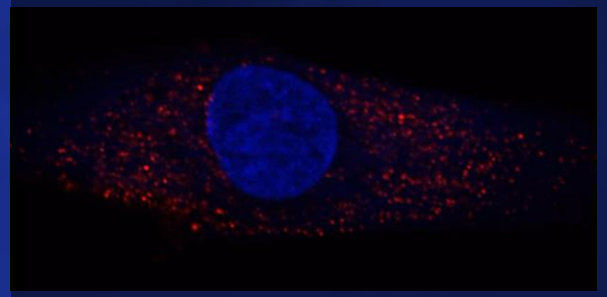
Naïve Program Advances Regulatory Progress Across All EV Products

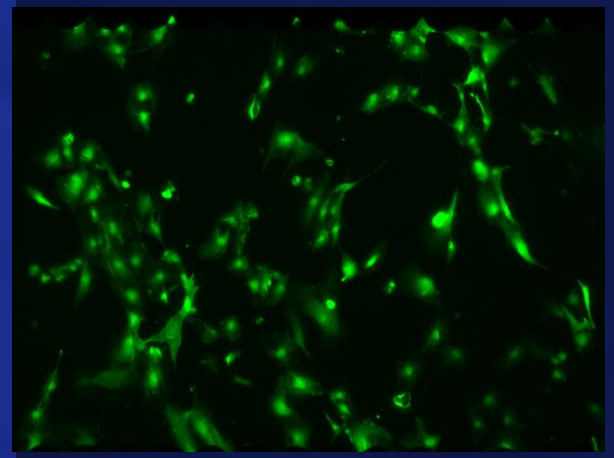
Step-wise progression to regulatory acceptance of EV medicines possible due to consistent process

Regulatory Perspective on EV Sources



PLEXOVAL II Study: Platelet EVs





"A prospective, randomised, **double blind, placebo controlled**, single dose, single site **phase I study to assess the safety and biological activity** of a Human non-autologous platelet derived **extracellular vesicle therapy** vs placebo on **wound healing** rate following skin punch biopsy in healthy volunteer adults" (Trial registration number CT-2020-CTN-01678-1)

Final dosing: Dec 2020

Final follow-up: Jan 2021

Final report: around Mar 2021

Naïve EV Phase II/III Manufacturing Process is Fast and Economical

For PLEXOVAL II …

- **2 operators, 8 hr from LEAP to final product**
- 40 doses of Plexaris product

For a Phase II Trial, Producing 400 doses would require bigger equipment, but ***only the vial filling would require more labor***

For a Phase III Trial, Producing 4,000 doses would require bigger equipment, **and the vial filling would be automated**

Same is true for Cevaris (Naïve EVs from adult stem cells)

Naïve EVs: Strategy and Progress

Strategy

- Use Naïve EV programs to build manufacturing and regulatory expertise across both Naïve and Engineered EVs
- Leverage lower COGs and demonstrated safety profile as a "fast follower" to cell based regenerative medicines

Clinical Milestones

Platelet EVs

- ☑ Autologous Phase I (2020)
- ☑ Allogeneic Phase I (2021)

MSC EVs

- ☑ Allogeneic Phase I (2022)

Unique, Powerful Technology Underpins Engineered EV Programs

	Applicability	Exclusivity
LEAP Scalable, economical GMP process for purifying EVs	• Natural EVs (e.g. blood, plant, bacterial) • Engineered EVs	100% Exopharm
LOAD Activity enhancing method for delivering RNA by EV	• Natural EVs • Engineered EVs	100% Exopharm
EVPS Tropism-conferring* approach for engineering EV surface proteins	• Engineered EVs only • Can also be used for tracing and protein cargo	100% Exopharm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WO 2018/209182 A3

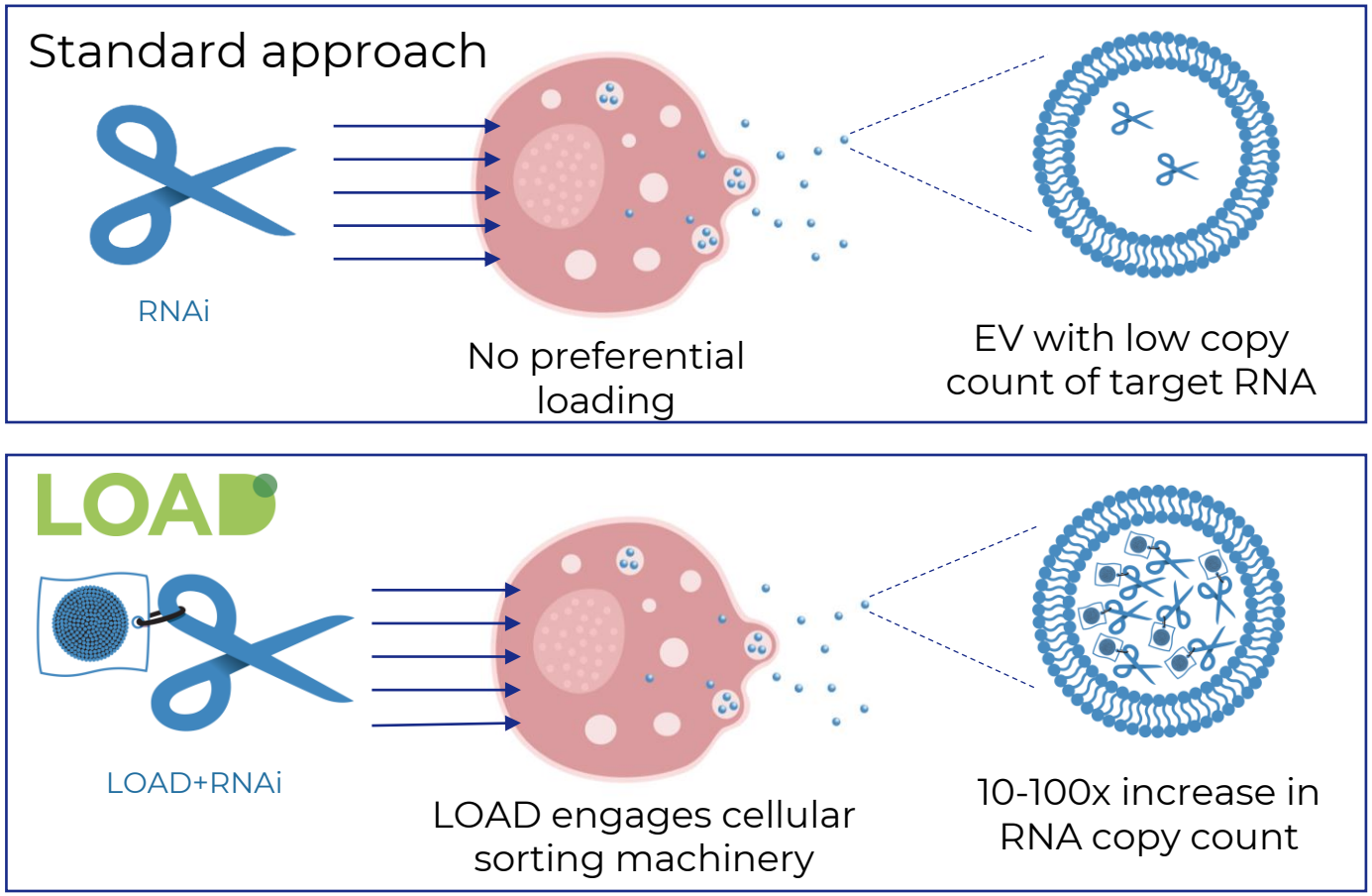

US 20190015333A1
(19) United States
(12) Patent Application Publication
Lu et al.
(10) Pub. No.: US 2019/0015333 A1
(43) Pub. Date: Jan. 17, 2019

* Tropism is the preference for an EV to enter a specific cell-type

LOAD: More RNA Cargo, More Effect

Activity enhancing method for delivering RNA by EV

- Cells have sorting machinery that can transfer specific RNA sequences into EVs
- LOAD attached to an RNA cargo directs the sorting machinery to preferentially pack RNA cargo into EVs
- LOAD increases the efficiency of RNA cargo loading by 10 – 100-fold

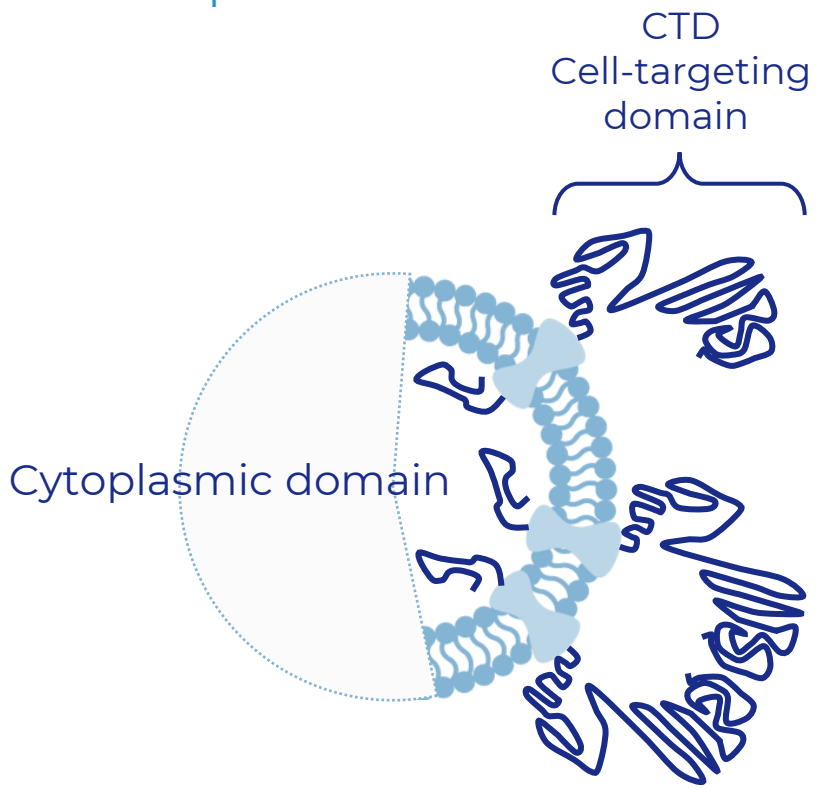


EVPS: Construct Approach

Tropism-conferring approach for engineering EV surface proteins

1. Design construct based on VSVg viral coat protein:
    - Cargo: Cytoplasmic domain for proteins carried as cargo
    - VSVg: Transmembrane domain passes through cell and EV bilipid layers
    - CTD: Cell-targeting domain for externally facing proteins

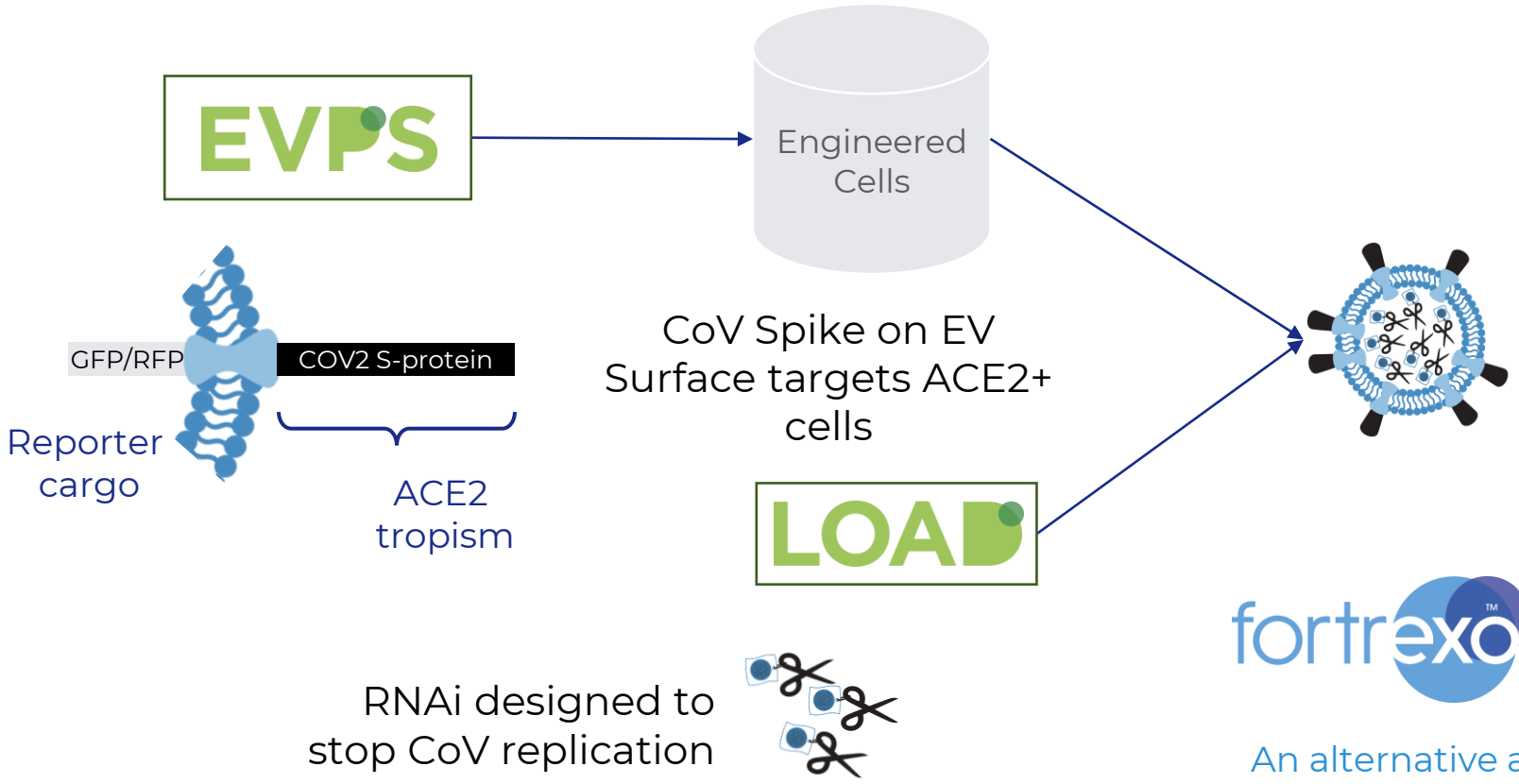
2. Engineer into producer cell line using plasmid vector



EVPS EV from engineered producer cell

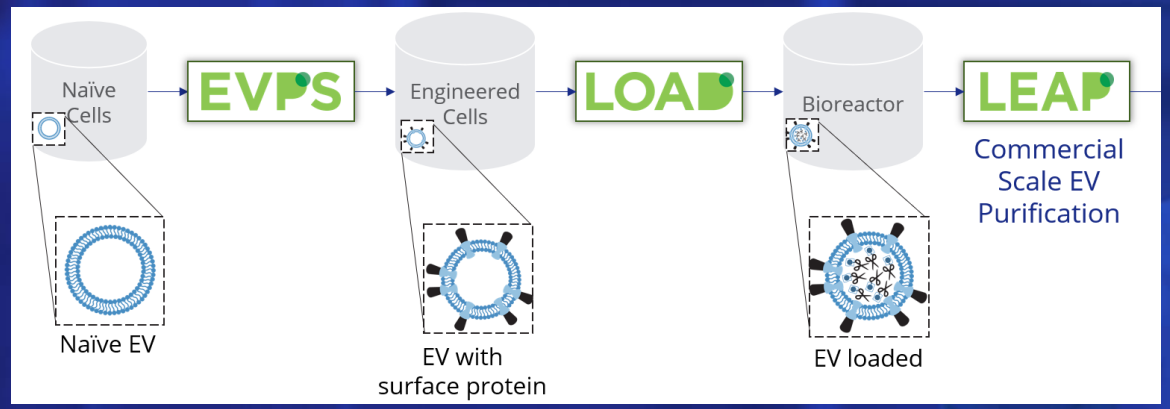
Note: VSVg = vesicular stomatitis virus glycoprotein

Fortrexo CoV:
Target anti-CoV siRNA to ACE2+ Cells



An alternative answer to vaccines

EEV Factory for Precision Medicine



- **Cancers**
- **Viruses**
- **Rare diseases**
- **Neurological diseases**

Custom addressing - targeting EEVs to selected cell types

+

Custom medicines 'Drug' cargoes e.g. small molecules, RNAi, siRNA, mRNA

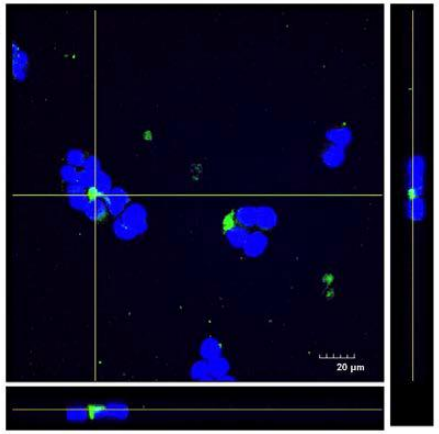
=

Partnering Capabilities

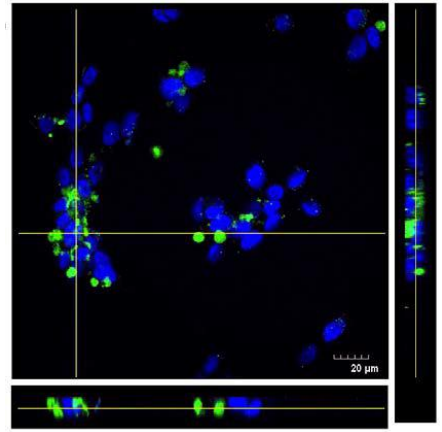
- Protein and nucleic acid additions to EVs
- Fully-scalable proprietary purification technology

Cognevo: EVs Enter Brain Cells

LEAP-purified MSC-EVs are taken up by human neuronal-like and glial-like cell types in vitro



Blue - glial cells (LN18), Green - EVs
10-15% uptake



Blue - neuronal cells (SH-SY5Y), Green - EVs
40% uptake

EVPS to enhance BBB penetration

- Developing constructs to confer neurotropism through surface protein expression
- Collaborations with academic KOLs to identify and test peptide, scFv and other constructs

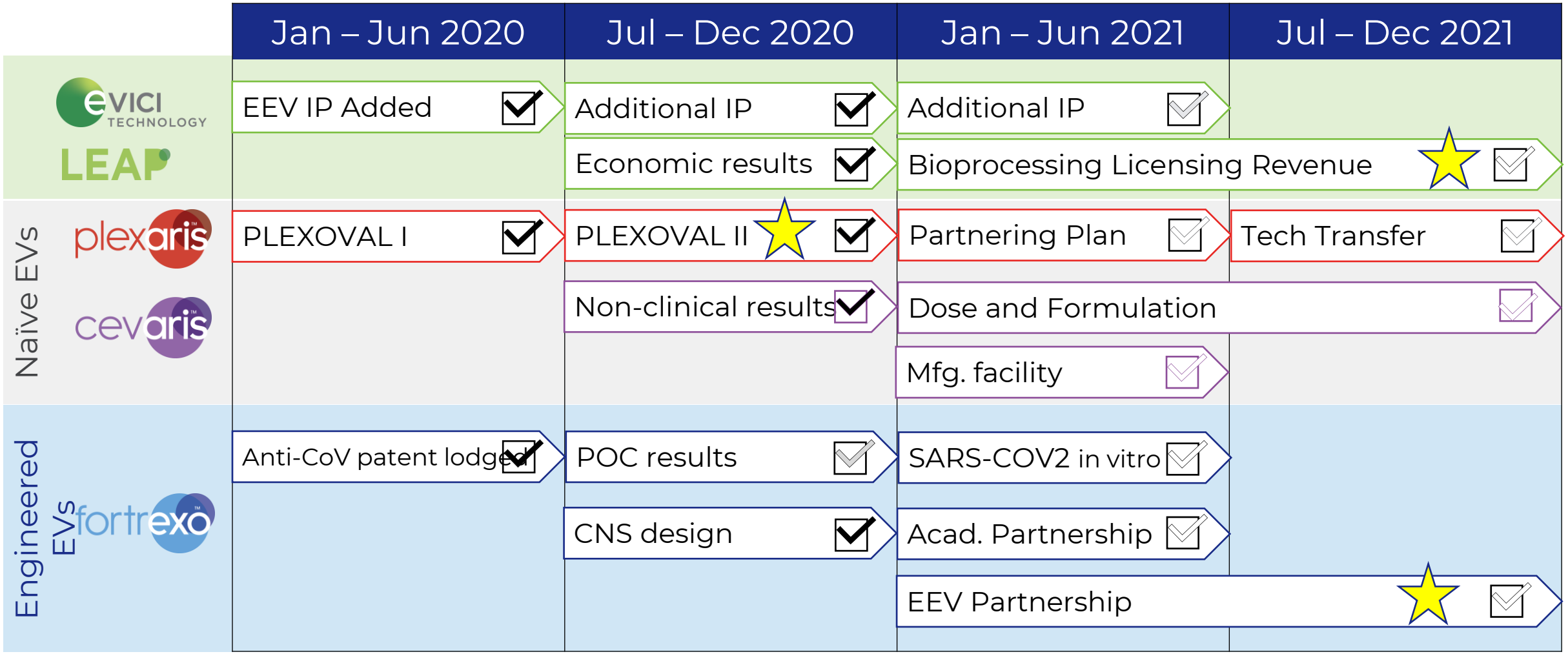
Advanced cargo options

- Delivering gene therapy alternatives (such as RNA or protein) through BBB
- Multiple academic collaborations in place

Engineered EV Deals

EV Company	IP Status	Pharma Partner	Date	Area	Upfront	Milestones
evox THERAPEUTICS	☑	☑ Lilly	**Jun 2020**	**CNS**	**> $50 mln**	**$1.7 billion**
		☑ Takeda	Mar 2020	Rare diseases	**$63 mln**	**$1.3 billion**
CODIAK	☑	☑ Jazz Pharma	Jan 2019	Cancer	**$77 mln**	**$1.8 billion**
		☑ SAREPTA THERAPEUTICS	**Jun 2020**	**CNS**	**> $100 mln**	**Not disclosed**
exopharm	☑ As of Jun 2020	☐	Target: 2021			

Exopharm has a Direct Path to Revenue



Thank you

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Transformative Medicine