

A circular inset image on the left side of the slide shows a close-up of a complex piece of laboratory equipment, likely a chromatography system, with various tubes, valves, and a cylindrical component. The background of the slide is white with a large, curved graphic element in shades of blue and red on the left side.

DYADIC INVESTOR PRESENTATION

Published Online Jan 5th, 2021

C1 TECHNOLOGY PLATFORM

MAKING HEALTHCARE ACCESSIBLE & AFFORDABLE

Safe Harbor Regarding Forward-looking Statements

Certain statements contained in this presentation are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, including those regarding Dyadic's expectations, intentions, strategies and beliefs pertaining to future events or future financial performance. Actual events or results may differ materially from those in the forward-looking statements as a result of various important factors, including those described in Dyadic's most recent filings with the SEC. Undue reliance should not be placed on the forward-looking statements in this presentation, which are based on information available to us on the date hereof. Dyadic assumes no obligation to update publicly any such forward-looking statements, whether as a result of new information, future events or otherwise. For a more complete description of the risks that could cause our actual results to differ from our current expectations, please see the section entitled "Risk Factors" in Dyadic's annual reports on Form 10-K and quarterly reports on Form 10-Q filed with the SEC, as such factors may be updated from time to time in Dyadic's periodic filings with the SEC, which are accessible on the SEC's website and at www.dyadic.com

Dyadic At A Glance

Solid Financial Position with Significant Insider Ownership

Dyadic's patented and proprietary C1 gene expression platform technology provides an efficient and commercially cost-effective solution to produce large quantities of protein, which enables biopharma to develop and manufacture biologic vaccines and drugs faster, with greater productivity and more affordably for human and animal health.

Market Capitalization	\$141.8 million (as of 1/04/2020)
Cash & Investment-grade securities, including accrued interest	\$30.5 million (as of 9/30/2020)
Shares Outstanding	~ 27.5 million (as of 11/11/2020)
Debt and Warrants	None
Insider Ownership	~30%
2019 R&D Revenue	\$1.7 million
Increased Corporate Visibility	Added to the Russell 2000® Index and Russell 3000® Index



NASDAQ
DYAI



HEADQUARTERS
Jupiter, Florida



HISTORY
Founded In 1979



RESEARCH LOCATIONS
Finland, Spain and Others

Investment Highlights

Next Generation Protein Expression Biotech with Well-established Global Partners

Proprietary & Patented C1 gene expression platform technology

Designed to bring biologic vaccines and drugs to market faster, in greater quantities, at lower cost

Competitive advantages

Robust and rapidly expanding scientific data that demonstrates high productivity stability and purity for a growing number of protein classes

Validating partnerships

Well-established, global biological R&D organizations, top-tier animal and human health pharmaceutical companies, as well as governmental agencies

Opportunistic business development

Emphasis on large and growing addressable human and animal health markets, many shots on goal including vaccines and antibodies for infectious diseases and therapeutic proteins for diabetes, oncology and arthritis

Experienced management

Highly experienced and energized management team and board of directors driving process and execution excellence

Management Team & Directors With Track Record Of Value Creation

Highly Energized Management Team with Deep Industry Expertise
Active Board with Decades of Relevant Experience in Biomanufacturing



Mark Emalfarb

Founder, CEO

Inventor 25+ U.S. and foreign biotechnology patents



Ronen Tchelet

VP of Research and Business Development

15+ years in research/pharmaceutical industry



Ping Rawson

CFO

20+ years of finance and accounting experience



Matthew Jones

Managing Director, Business Development and Licensing

20+ years life science & biopharma industry leadership



Dr. Arin Bose

Board Member

34 years bioprocess development & clinical manufacturing



Dr. Barry Buckland

Board Member

29 years R&D leadership | National Academy of Engineering



Michael Tarnok

Board Member

Seasoned pharma industry finance/operational executive



Company History

Solid History with Growing Portfolio of High Value Collaborations

COMPANY HISTORY

Founded by Mark Emalfarb in 1979

1990's - 2015 as an industrial biotech utilized C1 platform and other technologies to produce commercial quantities of enzymes for industrial products and applications

Previously licensed C1 to leading industrial companies including Abengoa, BASF, Codexis/Shell Oil

KEY FINANCIAL HIGHLIGHTS

Sold industrial biotech business to DuPont for \$75 million on Dec 31, 2015 in order to focus on pharmaceuticals

Generated >\$100 million in industrial enzyme product revenues from customers in 35 countries and received > \$30 million for non-exclusive licenses

Several hundred million dollars invested in C1 technology by Dyadic & its licensees

~\$22 million share buyback between 2016 and mid 2018

Strong cash position, low cash burn, no debt and no warrants

SIGNIFICANT STRATEGIC RELATIONSHIPS

Retained exclusive sublicensing rights to use C1 for human and animal pharmaceutical applications

Engaged with leading research organizations, biopharma and biotech, government agencies globally to advance science and programs

Potential to re-enter industrial enzyme, agricultural and other emerging markets

- Noncompete with DuPont ended December 31, 2020

2020 Accomplishments

Strong Scientific and Business Development Achievements

COVID-19 Initiatives

Selected by Frederick National Laboratory to engineer C1 cell lines to produce a number of COVID-19 vaccine candidates

Expanded collaboration with the Israel Institute for Biological Research (IIBR) on COVID-19

ZAPI Scientists, Erasmus, Utrecht, TiHo Hannover

Multiple animal trails of C1 expressed SARS-CoV-2 Receptor Binding Domain (RBD) Antigen, and RBD nanoparticle

C1 expression of SARS-CoV-2 antigens including Full Spike, and RBD FC antigens

C1 expression of SARS-CoV-2 monoclonal antibody achieved

Animal Health Collaboration

Three additional collaborations for companion and farm animal diseases with leading global animal health companies

Expanded collaboration with one existing Top 4 animal health company

Worked with all of the top four (4) animal health companies (global revenues)

ZAPI - Continued development of SBV and RVFV antigens, including successful SBV mice and cattle animal trials

Human Health Collaboration

Entered into new and continuing fully funded collaborations with top tier pharma and biotech companies including top 5 and top 25, including Six new and expanded animal and human health collaborations since Q2 2020

Expanded presence in the Asia Pacific Region, including collaboration with Jiangsu Hengrui Medicine for biologic drug development

Important progress and expanded animal efficacy data in a number of COVID-19 vaccine and antibody programs including with ID Biologics, Inc., who licensed this mAb from the Vanderbilt Vaccine Center ("VVC").

Feasibility Study

Successful expression of a number of classes of antigens, and therapeutic proteins for human health within health and animal health programs for third parties and internal programs.

Continued progress on the development (C1 expression) of humanized glycan nivolumab protein (biobetters of Opdivo®)¹.

University of Oslo Feasibility Study, evaluate C1's potential to express influenza virus antigen proteins

¹.Opdivo® is a Bristol Meyers Squibb monoclonal antibody for immunotherapy with sales of US\$ 8 billion (2019)

Research License & MTA

Entered into non-exclusive Research License with WuXi Biologics (top ten global CDMO). WuXi is performing gene expression and fermentation experiments with the C1 technology platform.

Extended non-exclusive Research License with affiliate of a top tier pharma company. Fully funded gene expression and fermentation experiments ongoing with the C1 technology platform.

Entered into a number of Material Transfer Agreements including transferring samples of C1 SARS-CoV-2 antigens to more than a dozen third parties for evaluation and in a number of cases led to carry out animal studies in mice and hamsters.

Scientific Achievements

Launched a recombinant protein vaccine platform including use for infectious diseases

Demonstrated successful expression of a number of antigens, antibodies and other therapeutic proteins using C1

Successful pre-clinical animal studies for C1 expressed SBV and SARS-Cov-2 RBD

Excellent progress in reducing the extracellular protease background by 50 times in C1. The elimination of protease activity makes the proteins expressed from the C1 cell line more stable, leading to even higher expression levels and lower cost

Dyadic Favorably Aligned With Global Trends

Pharmaceutical Industry is in great need for a more efficient cell line that produces more for less

Dyadic's C1 expression platform provides a novel solution to infectious diseases including pandemics, brings new biologics to the market faster, and allows for broader accessibility more affordably to potentially life-saving therapeutics and vaccines

Global Healthcare Challenges

Epidemics, pandemics and other biological threats, e.g., COVID-19, Flu
Ebola HIV malaria and other high threat pathogens

Growing and Aging Population

Rising prevalence of chronic diseases
Accessible, affordable medications – new molecules and biosimilars/biobetters
Move to value-based care

Technological Advancement

Need for faster, more efficient vaccine and drug development and manufacturing platforms to lower cost and increase accessibility & affordability

Addressable Biopharmaceutical Market Opportunities

Global and Growing End Market Opportunities

Recombinant Vaccines and therapeutic proteins for Animal health

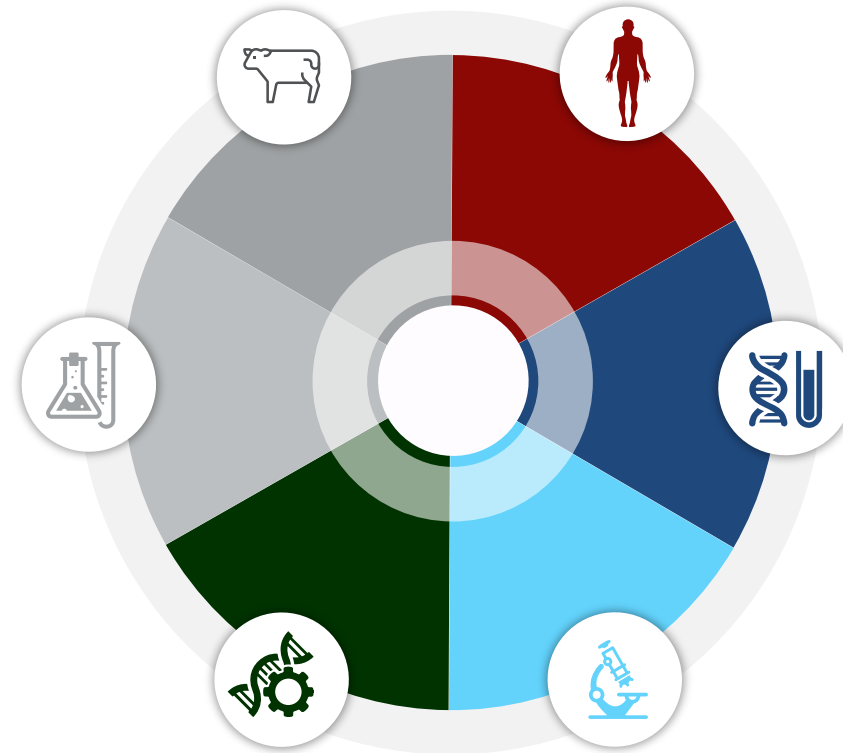
Global Market size – \$11.3 Billion by 2025¹

New Biologics
mAbs, Bispecifics, FC-Fusions

Global BioPharmaceutical Market size – \$319 Billion by 2021²

Biosimilars/Biobetters/Other Biologics

Global Market size – \$69 Billion by 2025³



**Vaccines and drugs for Coronavirus
Pandemic and Epidemic zoonotic
diseases and biologic threats**

Recombinant vaccines for human health

Global Market size – \$58.4 Billion by 2024⁴

Other markets

Diagnostics

Primary and secondary metabolites

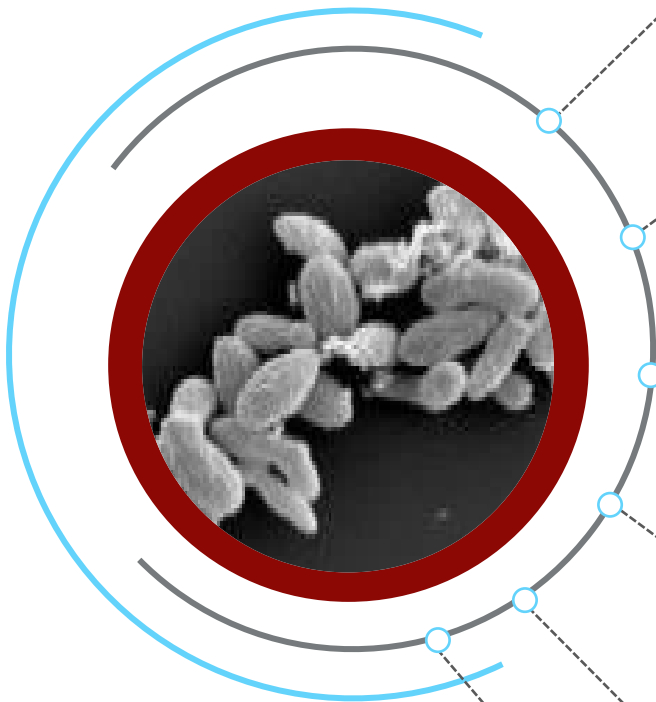


C1 GENE EXPRESSION PLATFORM
COMPETITIVE ADVANTAGES

C1 Is a Hyper-productive Expression System

Unique Morphology: Low Cost, High Purity and Yield and Scalable Benefits for Protein Manufacture

C1 is a thermophilic fungus with a unique morphology allowing for growth under a broad range of conditions which has been further engineered for efficient protein development & production.



C1 initially engineered to produce enzymes for textiles, biofuels, pulp and paper, etc

Proven low cost, high-yield and purity, scalable, robust system with improved downstream benefits

C1 genome fully sequenced, annotated, and full set of genetic tools

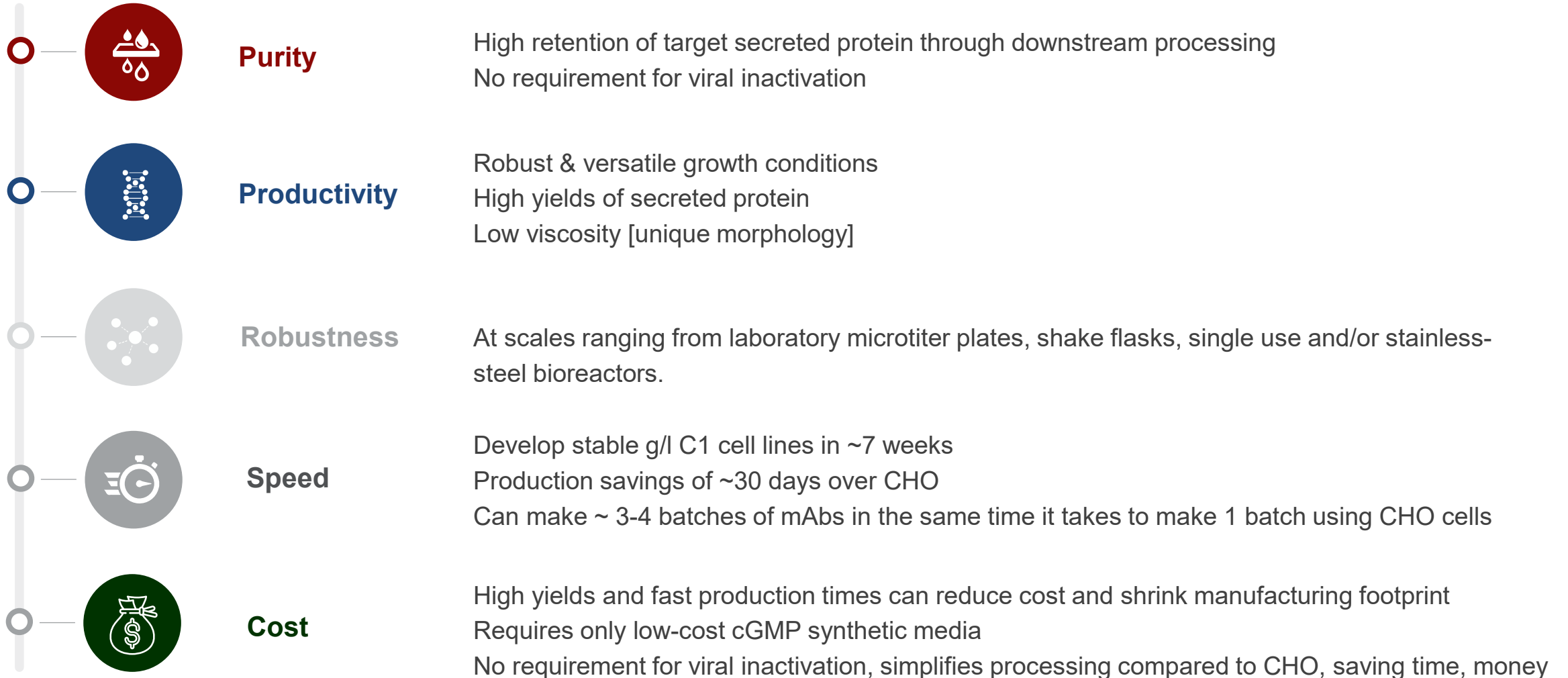
Proprietary and patented genetic elements for use in engineered C1 strains

C1 received a generally recognized as safe (GRAS) certification from the US FDA in 2009

C1 SARS-CoV-2 vaccine candidate is in late stages of pre-clinical development including toxicology and cGMP production for anticipated use in a Phase 1 clinical trial in the USA.

C1 Competitive Advantages

Robust Gene Expression Platform Offers A Number Of Competitive Advantages Over Existing Technologies



C1 Platform has Superior Production Capabilities vs CHO Cells

C1 produces therapeutic proteins at HIGHER yields, FASTER and at LOWER costs

C1 platform produces comparable therapeutic proteins as CHO while overcoming key production limitations

C1 produces stable and correctly folded monoclonal antibodies that have similar activity to those produced from CHO cells



Lower Cost

Flexible production scale; C1 media <1/20 of the cost of CHO media

No viral inactivation required

Faster Production

C1 produces product significantly faster (12-14 days) than CHO cells (41-54 days)

Higher Yields

C1 produces more product per batch and larger overall quantities

~ Potential to produce three to four batches using C1 in the same timeframe as one batch using CHO cells

C1 Technology Can Be Applied To A Broad Set Of Biologics

Versatile “Workhorse” Capable of Manufacturing Proteins Quickly and at Low Cost

Impressive Yield and Purity Demonstrated for Therapeutic Proteins¹

Fc-Fusion	mAbs	Fab (Certolizumab)	Trispecific
15.3 g/l ¹	24.5 g/l ¹	14.5 g/l ¹	6.12 g/l ¹
168 Hours	168 Hours	164 Hours	144 Hours
2.58 g/l/day	3.1 g/l/day	2.1 g/l/day	1.02 g/l/day

Hyper Productivity for Antigen Classes Routinely Used in Vaccines

Hemagglutinin (HA)	Antigen	Virus-Like Particles
413 mg/l ¹	3,500 mg/l ¹	2,200 mg/l ¹
137 Hours	96 Hours	110 Hours
72 mg/l/day	875 mg/l/day	500 mg/l/day



**RETURN-FOCUSED BUSINESS
DEVELOPMENT**

Return-focused Business Development

External programs help advance C1 platform and fund Dyadic R&D initiatives

External Programs



Allow Dyadic to develop and advance C1 platform technology at low cost to the Company

Big Pharma

Funded proof of concept collaborations for specific therapeutic agents

Potential for up front access fees, milestones and royalty payments

Smaller Biotech

Potential for equity, milestones and royalty payments

Grant

Governmental and agency grants

Internally Funded Programs



Dyadic funds certain programs where its C1 gene expression technology may overcome barriers of existing platforms or where it can have a meaningful technological or commercial impact

Glycoengineering

Protease deletion

Biosimilars and Biobetters

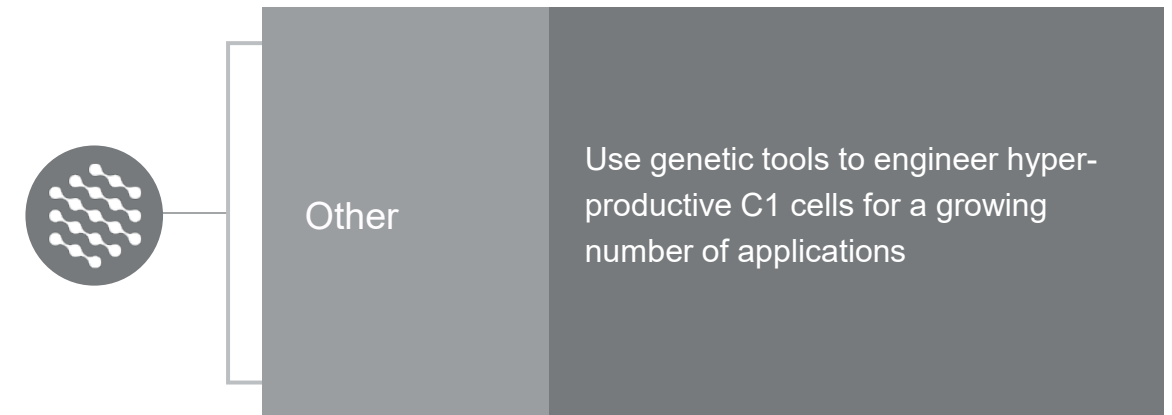
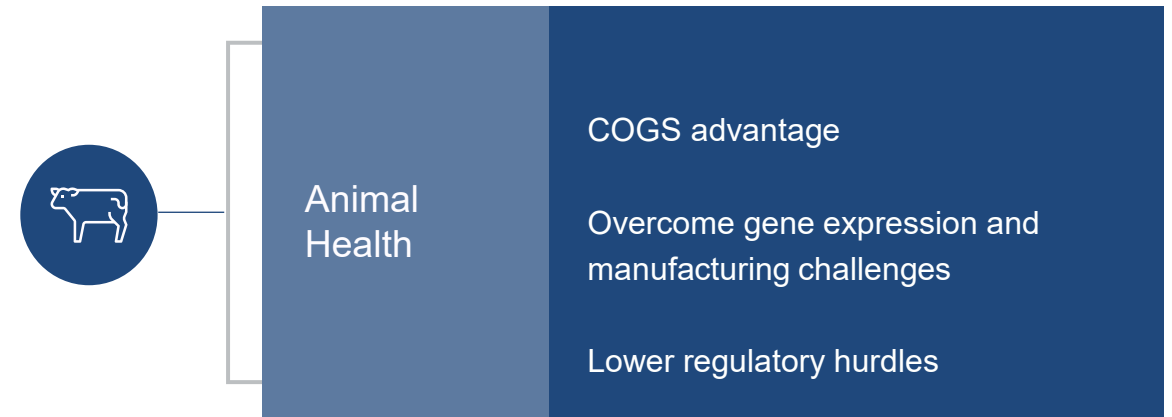
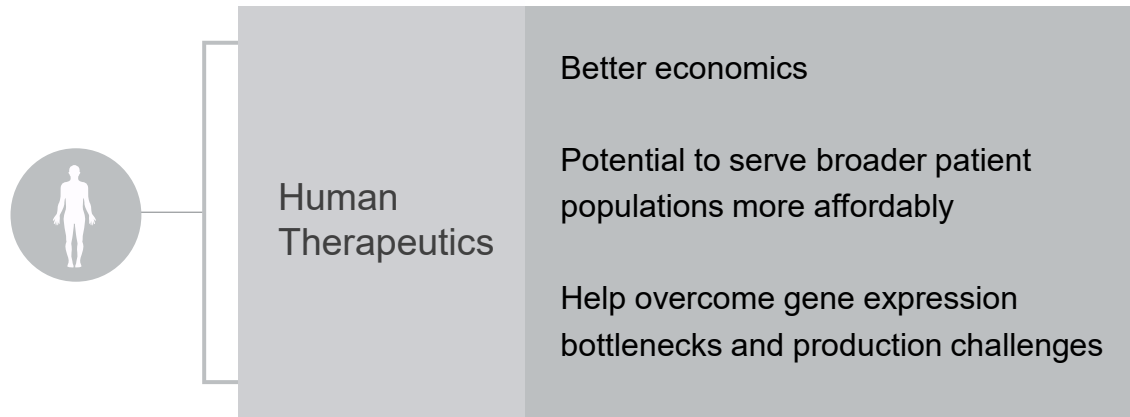
COVID-19, Influenza other Infectious Diseases

Metabolites

Other

Market Segments

Helping to Overcome Gene Expression and Production Challenges



Leveraging Third Party Funding to Advance C1 Platform

Animal Health: ZAPI Selected C1 Platform for the production of ZAPI antigens after Competitive Process

- Animal health is a rapidly growing market for both companion and farm animals.
- Vaccine & Drug development in animal health typically has a shorter regulatory timeframe and the cost of the vaccines and drugs is important.
- Dyadic has been involved in the **Zoonoses Anticipation Preparedness Initiative (ZAPI)** since 2015.
- ZAPI collaboration has helped generate PoC data and guidance on how to improve C1 for mass antigen production.
- Through collaboration with ZAPI scientists and others, C1 has a potentially important role in helping to combat pandemics.
- SBV antigen produced from C1 was more stable and produced at ~300 times greater levels than the SBV antigen produced from baculovirus.
- C1 expressed SBV antigen was very effective (Full Protection). ZAPI Animal studies concluded that Dyadic's C1 expressed SBV antigen demonstrated very strong performance in protecting both cattle and mice from the Schmallenberg virus.
- ZAPI is expected to fund additional animal trials in 2021 with C1 expressed antigens (SBV and RVFV)
- ZAPI success led to fully funded collaborations with several leading global animal & human health companies and governmental agencies

Zoonotic Anticipation Preparedness Initiative (ZAPI), is a research and development program sponsored by the EU . The goal is to developing a platform suitable for the rapid development and production of vaccines and protocols to fast-track registration of developed products to combat epidemic zoonotic diseases that have the potential to affect the human population.



Successful Execution of Government Sponsored Collaborations

Positions Dyadic to Enter Clinical Trials

Israel Institute for Biological Research (IIBR)

- Entered into initial collaboration January 2018
- Focused on advancing C1 expression platform for the development and manufacture of recombinant vaccines and neutralizing agents comprising targeted antigens and monoclonal antibodies, to combat emerging diseases and threats
- A proprietary IIBR Fc-fusion enzyme has been expressed using C1 technology provides certain countermeasures against nerve agents such as sarin and VX gas
- February 25, 2020 expanded collaboration with the IIBR to combat emerging diseases including collaborating on a potential rVaccine candidate to combat COVID-19 outbreak
- Dyadic provided one of its C1 RBD SARS-CoV-2 vaccine strains, along with samples of the C1 expressed RBD vaccine candidate, to IIBR for use in developing a potential COVID-19 vaccine
- Mice study conducted by IIBR showed that C1 expressed SARS-CoV-2 RBD has the potential to generate excellent immunogenicity responses with very high titers and neutralizing antibodies
- IIBR is conducting challenge study: transgenic mice expressing the Human Ace2 will be infected with SARS-CoV-2 virus.



DEVELOPING NEW
COMMERCIALIZATION
OPPORTUNITIES

Need For Rapid, Safe & Scalable Vaccine and Antibody Manufacturing Platforms

NEED



COVID-19 pandemic highlights the need for vaccine and antibody approaches that are not only safe and effective but can also be scaled up and easily tech transferred to rapidly meet the global need for billions of doses of affordable vaccines and drugs.

AIM



Develop an affordable, scalable, safe and protective vaccine and antibody production platform to combat infectious and other diseases such as COVID-19 and allow for fair and equitable access around the globe.

STRATEGY



Use C1 fungal expression system to express a variety of SARS-CoV-2 and other vaccine / antibody candidates. Goal is to develop low-cost biologics that can be rapidly tech transferred to multiple manufacturing locations and be produced at flexible commercial scales to meet global demands.

Coronavirus Spike RBD Is A Key Target For Potent Neutralizing Abs

In ~2 months, we developed a C1 cell line expressing the Receptor Binding Domain (23kDa) of SARS-CoV-2 spike protein

C1 stable cell line was developed that expressed the RBD originally at a level of ~ 1 g/L– no need for transient stage

C1 fermentation is based on Fed-batch technology with glucose feeding and cGMP synthetic media

Fermentation was run for 5 days in the Ambr250 system and in 5L fermentor scale

The RBD antigen was secreted to the media – no need for induction

Ongoing fermentation process optimization led to even greater productivity ~ 3 g/l in 4 - 5 days

Receptor binding domain:

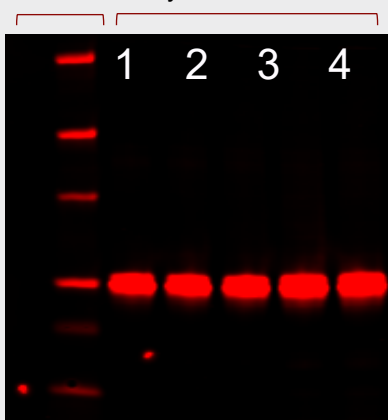
Single folded polypeptide chain

All potent neutralizing Ab target the RBD

Ag minimization -> focused immune response

C1 cell line in Ambr250 fermenter system

Marker Days of fermentation

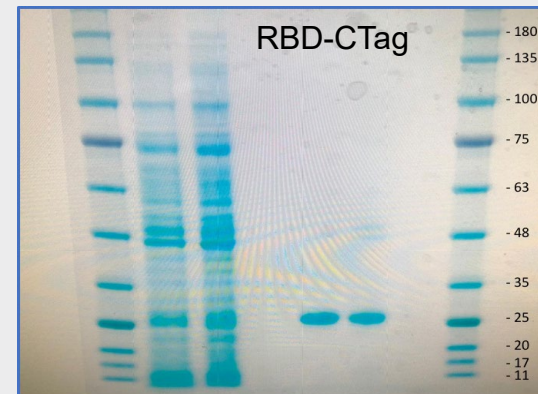


C1 RBD strain was run in Ambr250 for 5 days

WB analysis off fermentation broth

C1 cell line in Ambr250 fermenter system

Marker Supernatant Purified Marker



C1 RBD strain was run in 5L scale fermentation

The RBD was purified twice with CaptureSelect™ C-tag 10ml column.

98% purity

70% recovery

Evaluation Of RBD Produced By C1

01

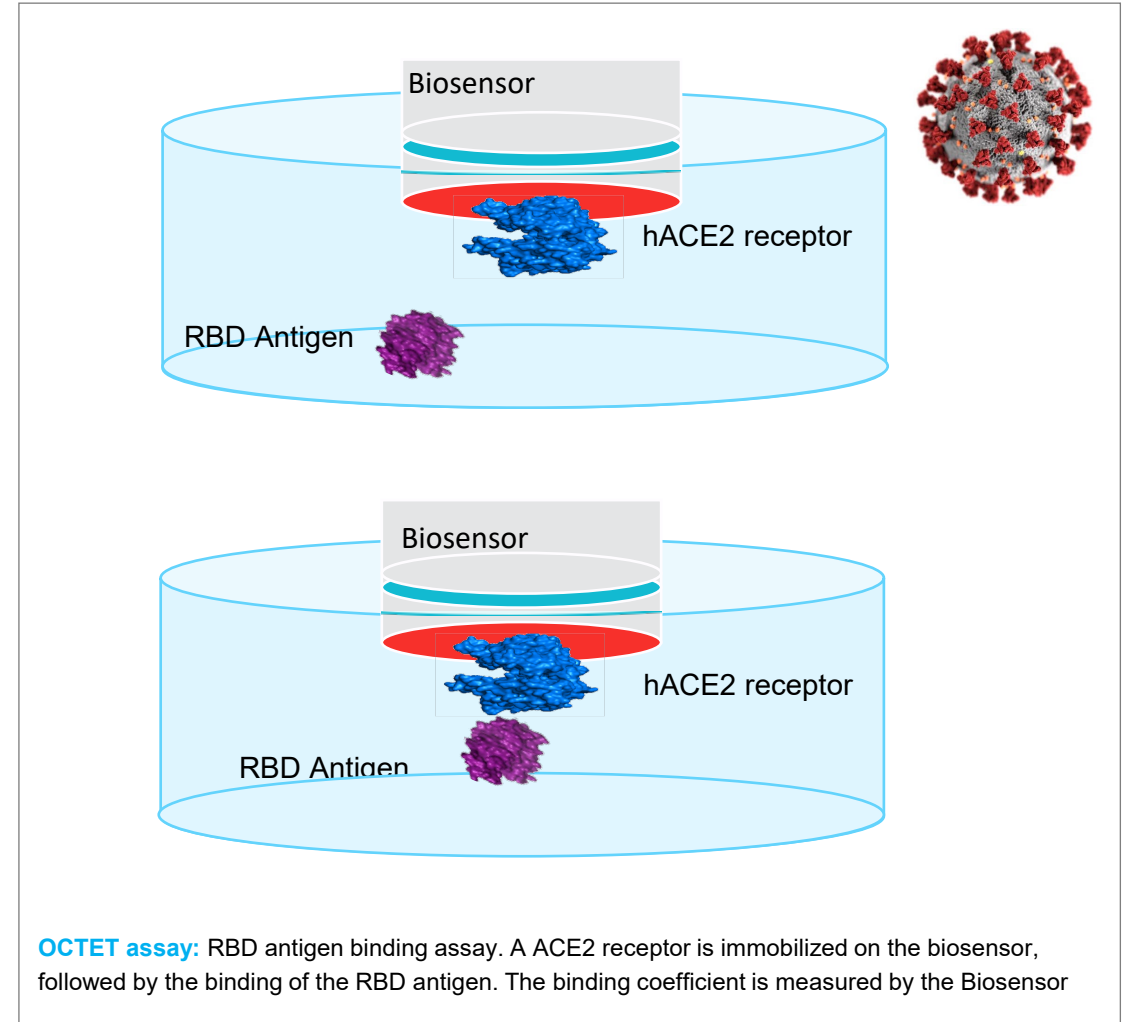
Biomolecular Binding Kinetics Assays: The equilibrium dissociation constant (KD) of C1 SARS-CoV-2-RBD-Ctag binding to recombinant hACE2 was calculated to be 4.9 Nm, which is comparable to that of the CHO SARS-CoV-2-RBD: 5.11 Nm.

02

In addition, all RBD neutralizing mAbs (that bind to different RBD epitopes) that were identified in patients infected by SARS-CoV-2 were efficiently bounded to C1 RBD-Ctag antigen. This binding clearly demonstrates that C1-RBD antigen was properly folded and has high potential to generate immune response and protection against the SARS-CoV-2 virus.

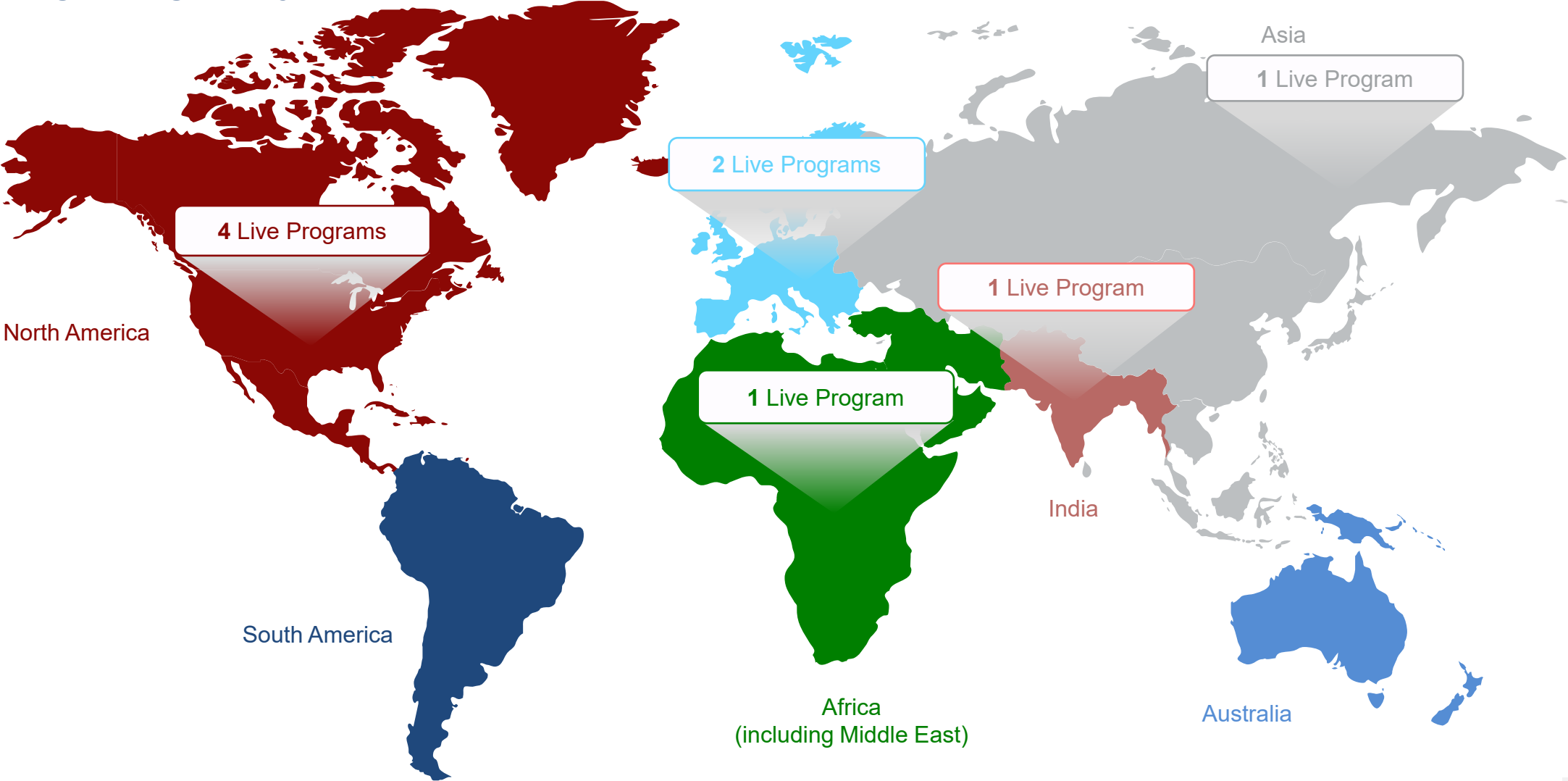
03

Recently – mice study confirmed that RBD antigen produced by C1 induced the production of neutralizing antibodies against the SARS-CoV-2 in mice. Additional animal studies are underway to assess the immunogenicity and protective efficacy upon challenge in hamsters and transgenic mice expressing the Human Ace2 will be infected with the SARS-CoV-2 virus.



SARS-Cov-2 Vaccine & mAb Programs Ongoing

Nine programs globally

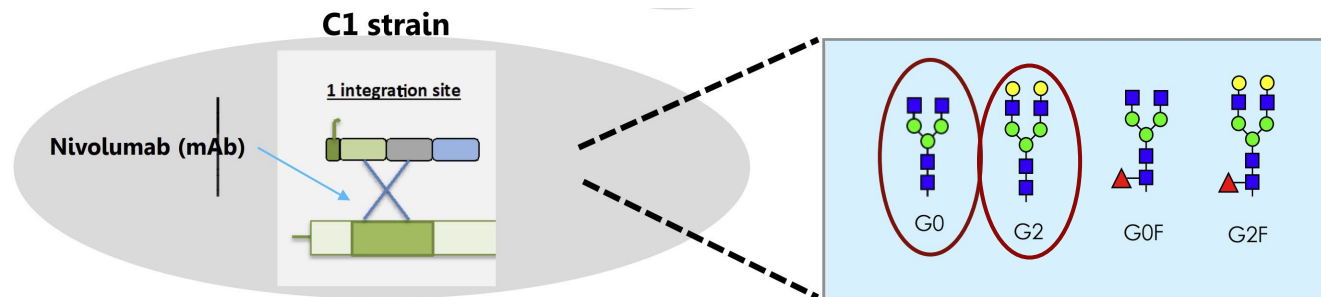


Dyadic's Nivolumab (Opdivo®) Biosimilar Program

Monoclonal Antibodies Represented a Compelling Opportunity for C1

Nivolumab (Opdivo®), manufactured by Bristol Myers Squibb, is an immunotherapy drug indicated for metastatic cancers, including melanoma and lung cancers.

- Opdivo costs about \$12,500 per month or about \$150,000 per year of treatment.
- Goal of program is to express nivolumab (mAb) with a glycan structure similar to nivolumab produced in CHO cells
- Dyadic has glycoengineered a C1 line with G0 levels of about 95% and G2 of about 76% as part of its glycoengineering program
- Further C1 strain and process development work is ongoing
- Important proof of concept – If we can successfully make Opdivo, our C1 technology could potentially be applied to multiple monoclonal antibodies



Developing New Commercialization Opportunities

Seasonal Flu

University of Oslo consortium study to determine viability of C1 to express APC-targeted Influzena virus antigen proteins. C1 previously successfully tested in a Sanofi Pasteur influenza vaccine trial versus baculovirus.

- 2015 immunogenicity study of Recombinant Hemagglutinin (HA) from the A/H1N1/New Caledonia/20/99 strain with Sanofi Pasteur demonstrated that:
 - (1) C1 produced r-HA was safe and well-tolerated in mice; and
 - (2) the C1 produced r-HA was **at least as immunogenic in mice as the baculovirus-rHA**.

Plan to partner and advance development or seek government funding

EXPRESSION SYSTEM	DOSE OF RHA 1 U/G	DOSE OF RHA 3.3 U/G	DOSE OF RHA 10 U/G	DOSE OF RHA 30 U/G
C1	50% (4/8)	57% (4/7)	100% (8/8)	100% (8/8)
Baculovirus	62% (5/8)	12% (1/8)	50% (4/8)	75% (6/8)

Key Takeaways

Next Generation Protein Expression Biotech with Well-established Global Partners

Proprietary C1 gene expression technology

Designed to bring biologic vaccines and drugs to market faster, in greater volumes, at lower cost

Competitive advantages

Compared with other pharmaceutical expression systems supported by robust and growing scientific data on protein expression yield, stability and purity

Validating partnerships

Well-established, global biological R&D organizations, top-tier animal and human health pharmaceutical companies, as well as governmental agencies

Opportunistic business development

Emphasis on large and growing addressable human and animal health markets; many shots on goal

Strong financial position

\$30.5 million in cash and investment securities, no debt and complemented by partner funded on-going R&D collaborations ⁽¹⁾

Experienced management - board of directors

Driving process and execution excellence

Thank You, Learn More At - www.dyadic.com

