Reinventing Biological Vaccine and Drug Development & Production

Dyadic International, Inc.
OTCQX: DYAI

DYADIC®

October 2018
Investor Presentation

Safe Harbor Regarding Forward-Looking Statements

Certain statements contained in this presentation are forward-looking statements within the meaning of the federal securities laws. These forward-looking statements involve risks, uncertainties and other factors that could cause Dyadic's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Any forward-looking statements speak only as of the date of this presentation and, except as required by law, Dyadic expressly disclaims any intent or obligation to update or revise any forward-looking statements to reflect actual results, any changes in expectations or any change in events. Factors that could cause results to differ materially are discussed in Dyadic's publicly available filings, including information set forth under the caption "Risk Factors" in our December 31, 2017 Annual Report filed with the OTC Markets on March 15, 2018 and our March 31, 2018 Quarterly Report filed with the OTC Markets on May 10, 2018. New risks and uncertainties arise from time to time, and it is impossible for us to predict these events or how they may affect us.

Dyadic at a Glance

DYADIC

1979 FOUNDED

HQ: Jupiter, FL

BD&L: London & Budapest

R&D: Finland & Spain

OTCQX: DYAI

Proprietary Technology

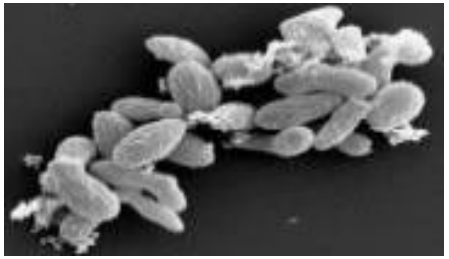
C1: Fungal Gene Expression Platform

Success in Industrial Use

Novel engineered cell line (*Myceliophthora thermophila*)

>20 Patents

20+ YEARS EXPERIENCE IN FUNGAL EXPRESSION AND COMMERCIAL ENZYME PRODUCTION



Strategic focus since 2016

Biopharmaceutical Market Opportunities

- Recombinant Vaccines
- Biologics
- Biosimilars/Biobetters
- Human and Veterinary

Why Invest in Dyadic?

Proven Technology for Industrial Use	Funded On-going R&D Collaborations with Top Tier Pharm	Experienced Board Members and Management Team	Strong Cash Position and Zero Debt	Compelling Valuation
DuPont	Sanofi, Mitsubishi Tanabe Pharma, Zapi	Merck, Pfizer, Deloitte.		
Sold to DuPont for $75 Million in 2015			US$45.8 M Cash & Investment Grade Securities (1) US$0 Debt	Trading Close to Cash Shares Outstanding: 26.7M 52 WK Range: $1.35 - $1.73

C1 Gene Expression Platform - Broad Applications

(1) As of June 30, 2018

Commercially Success in Industrial Biotech >$110 Million

Hyper productive C1 gene expression platform developed

Enzyme expression levels achieved >100 g/l with ~80% purity

- Approved as safe (GRAS) by FDA for food and feed applications
- C1 enzymes produced in up to 500,000 liter scale tanks
- Industrial Enzymes sold to customers in 35 countries
- C1 Related License Deals, Milestones & Equity in excess of $35 million

DUPONT® BASF We create chemistry ABENGOA CODEXIS® PROTEIN ENGINEERING EXPERTS Shell

12/31/2015

Dyadic sold its Industrial Technology business
to DuPont's Industrial Biosciences business ("DuPont") for
$75 million in cash

Dyadic Leadership Team & Financial Overview

Leadership Team

M. Emalfarb
Founder, CEO

P. Rawson
CAO

R. Tchelet, PhD
Vice President, R&D

M. Jones
Commercial Officer

Liquidity

>$110M
C1 Related License Deals, Milestones & Equity

$75M
Deal with DuPont for Dyadic's Industrial Technology Business

$19M Share Buyback
Completed 2/2017

$5M Add'l Share Buyback
Initiated 8/2017
Extended 8/2018

Fully Funded to Execute Business Plan

Financials

$45.8M
Cash & Investment Grade Securities (1)

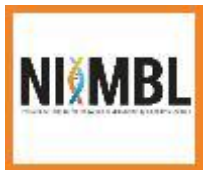
$0
Debt

$43.5M
Market Cap
OTC Markets Stock Exchange (OTCQX: DYAI)

26.7M
Common Shares Outstanding

(1) As of June 30, 2018

Dyadic Board – Decades of Big Pharma Experience

Board of Directors	Experience	Last Position
Arindam Bose 	Dr. Bose worked at Pfizer for 34 years and held leadership roles within bioprocess development and clinical manufacturing and is widely recognized as a Key Thought Leader in the biopharma industry.	Vice-President, Biotherapeutics Pharmaceutical Sciences, External Affairs and Biosimilar Strategy
Barry Buckland  	Dr. Buckland worked at Merck for 29 years where he served in a number of senior R&D leadership roles focusing on fermentation and bioprocess development and the commercial manufacturing of biologics and is widely recognized as a Key Thought Leader in the biopharma industry. Currently serves as Executive Director of NIIMBL (National Institute for Innovation in Manufacturing Biopharmaceuticals), a public-private consortium dedicated to advancing biopharmaceutical manufacturing innovation.	Vice President, Bioprocess R&D, Merck Research Laboratories
Michael Tarnok Chairman  	Mr. Tarnok is a seasoned finance and operational executive with extensive pharmaceutical industry experience. Currently serves on the Board of the Global Health Council, and Ionetix, Inc. Prior Board service includes Keryx Biopharmaceuticals, where he also served as Chairman of the Board.	Senior Vice President in Pfizer's US Pharmaceutical Division.

Disclosed Research Programs and Collaborations

Sanofi – Aventis
Evaluating C1 technology to produce multiple types of biologic vaccines and drugs of interest for human health indications.

Mitsubishi Tanabe Pharma
Evaluating C1 technology to produce two difficult-to-express vital therapeutic proteins for human health indications.

Biotechnology Development for Industry (BDI)
Evaluating a range of therapeutic proteins and a Virus Like Particle that are used in the animal and human health markets, including glycosylated or non-glycosylated proteins (mAbs, Fabs and bispecific mAbs, etc.) to determine which, if any, of these proteins might be potential candidates for future commercialization.

ZAPI Vaccination Program (Zoonoses Anticipation and Preparedness Initiative)
Results suggest the C1 expressed antigen tested in a small mice study generated the desired immune response and no negative effects on the health of the mice observed.

Israel Institute for Biological Research (IIBR)
Evaluating C1 for the development of recombinant vaccines and neutralizing agents comprising targeted antigens and monoclonal antibodies.

Dyadic is Developing What the Industry Refers to As a "CHO stopper"

CHO stopper? Biogen looks to alternative cell lines for future of bioproduction

The Chinese hamster ovary (CHO) cell line is not the future for biomanufacturing says Biogen, MIT & Gates Foundation

BioPharma Reporter Bioprocessing survey report, 11/03/2017

"Nearly half the respondents of our second state of the global biomanufacturing survey believe we are too reliant on Chinese Hamster Ovary (CHO) expression systems."

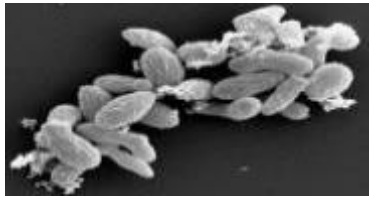
Gottlieb Slams Pharma, Launches Biosimilar Pathway, 7/19/2018

"Less than two percent of Americans use biologics, but they account for 40 percent of total spending on prescription drugs. They also represent 70 percent of the growth in drug spending from 2010 to 2015 and are expected to be the fastest growing segment of drug spending."

Dyadic's Goal

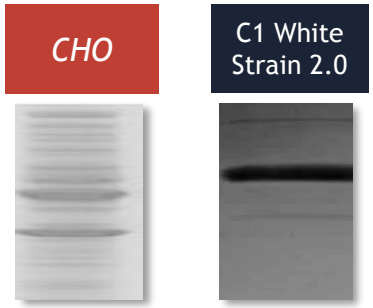
to further develop C1 into a safe and efficient gene expression system to help speed up the development, lower production costs and improve the performance of biologic vaccines and drugs at flexible commercial scales.

C1 - The Science



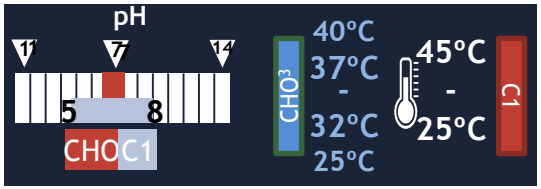
Unique Morphology

- ✓ Translates into better growth conditions
  - Higher yields of secreted protein
  - Lower viscosity



High Purity - 80% of target protein secreted

- ✓ Greater retention of target secreted protein through downstream processing
- ✓ Requires only low cost synthetic media
- ✓ No Viruses which eliminates 2 purification steps typical in CHO
  - No Low pH viral inactivation
  - No Virus nanofiltration



Wide operating conditions for pH and temperature

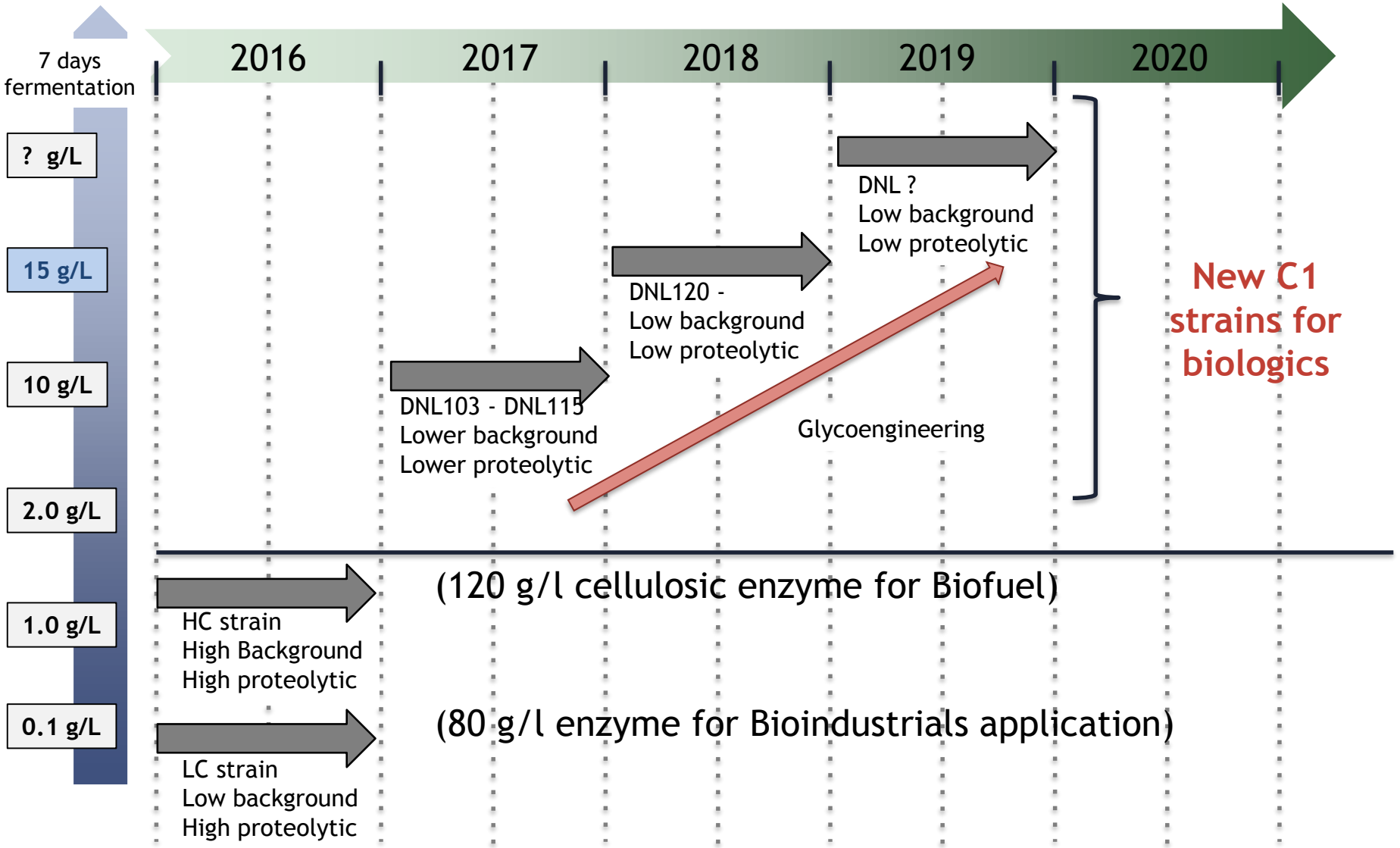
- ✓ At scales ranging from laboratory shake flasks to 20,000l tanks and above
- ✓ C1 has received GRAS (Generally Recognized as Safe) designation from FDA and is considered fit for human consumption

Shorter Development & Production Cycle

- ✓ Develop g/l/d C1 cell lines in 15 weeks
- ✓ From seed flask to fermenter
  - Savings of nearly 10 -14 days vs CHO
- ✓ Fermentation Cycle time 4-7 days
  - 1/2 to 1/3rd the time of CHO

C1 Strain Development for Therapeutic Protein

From BioIndustrial application to Biologics



Comparison of Various Expression Systems

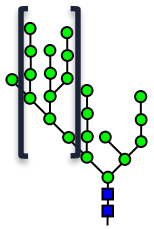
Qualifier	Bacteria [1]	Yeast [1]	Insect Cells [1]	Mammalian Cells [1]	Fungal [2]
Example	*E.coli*	*S.cerevisiae*, *Pichia pastoris*, *K. Lctis*	*Lepidopteran*	*Chinese Hamster Ovary* (CHO)	C1
Products	Small proteins	mAb, enzymes	Membrane proteins, ß interferon	mAb, high PTM requirement	Broad variety
Level of expression	High	Medium	Medium	Medium	Very high
Extracellular expression	No	Yes	Yes	Yes	Yes
Cost	Low	Low	High	High	Low
Expression Time	Fast 5 days	Fast 14 days	Medium 4 weeks	Slow 4-8 weeks	Fast 12-14 days
Regulatory track record	Good	Good	N/A	Good	Good (food and feed applications)
Post Translation Modifications	No	Yes	Yes	Yes	Yes

[1] Niazi, Sarfaraz K. (2016) *Biosimilars and Interchangeable Biologics Tactical Elements*
[2] Dyadic data and assessment

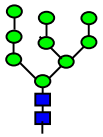
C1 Glycoengineering In Progress

- Dyadic's C1's glycan structure is more mammalian like than typical yeast
  - *The native C1 glycan pattern is relatively complex with high mannose type (Man3-Man9)*
  - *O-glycosylation was not identified in therapeutic proteins expressed in C1*
  - *Less engineering steps needed for C1*
- *The first steps* of Glycoengineering C1 cells has begun and were successful
- No negative effects on cell viability have been observed with any of the modifications done

Typical Yeast Glycan Structure

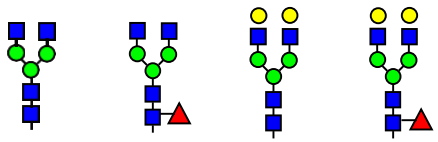


Dyadic C1 Glycan Structure



Man_9

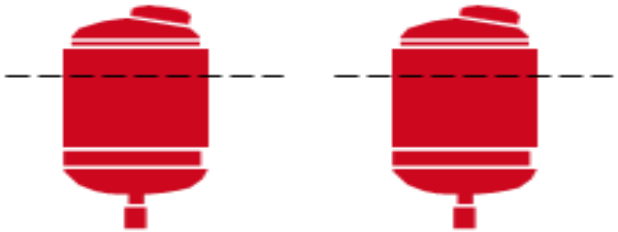
Targeted Mammalian Glycoforms

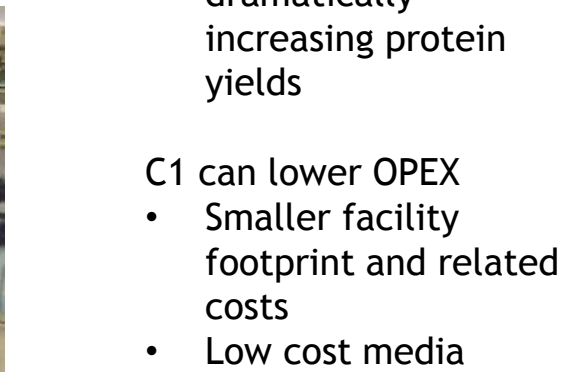


C1 Benefits: Lower Production Costs, Both CAPEX and OPEX

Stainless Steel Multiuse

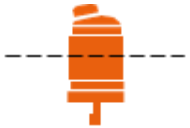
2 x12,000 liter





Single Use Bioreactor

2,000 liter



C1 can lower CAPEX:

- Produce at smaller scale while dramatically increasing protein yields

C1 can lower OPEX

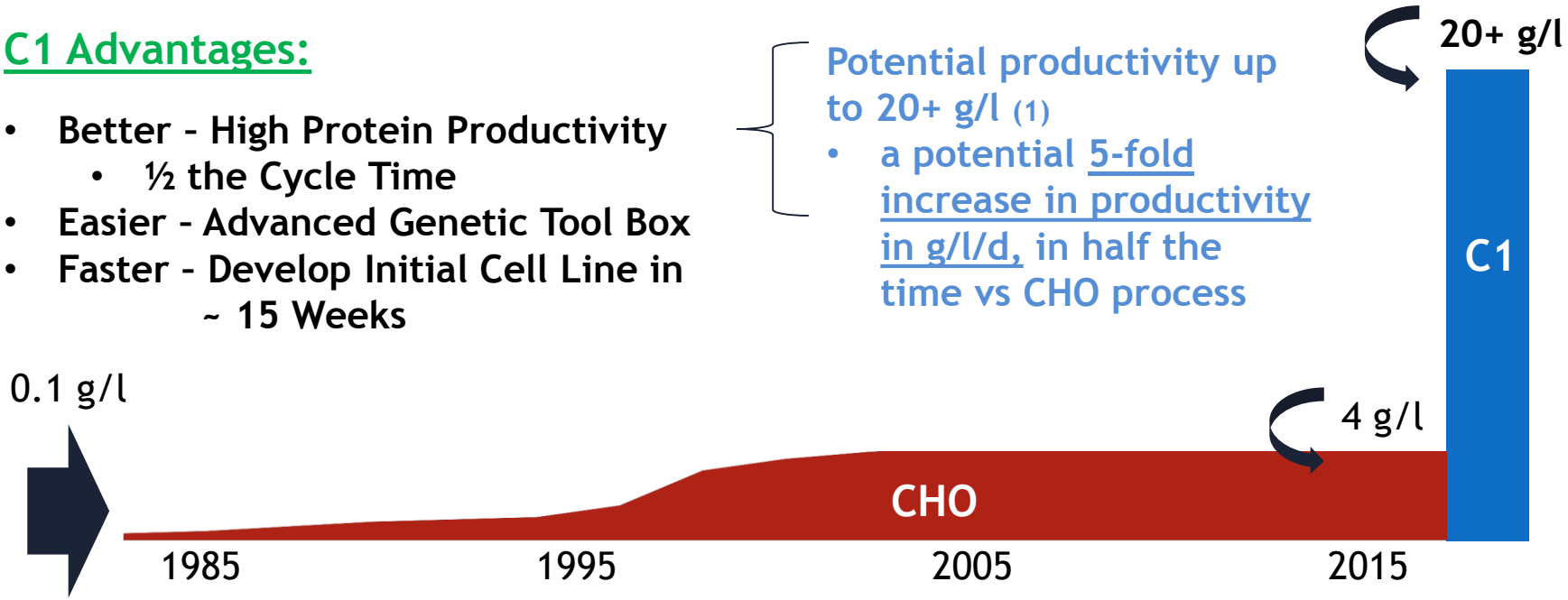
- Smaller facility footprint and related costs
- Low cost media

Dyadic Solution - C1 Expression Platform

C1 Advantages:

- Better - High Protein Productivity
  - ½ the Cycle Time
- Easier - Advanced Genetic Tool Box
- Faster - Develop Initial Cell Line in ~ 15 Weeks

Potential productivity up to 20+ g/l (1)
- a potential 5-fold increase in productivity in g/l/d, in half the time vs CHO process



C1 Impact and Value Creation:

- Shorten development time
- Lower Development & Production Costs
- Increased productivity
- Smaller plants will be required
- Lower healthcare costs

(1) Estimated future C1 yield for a 6-7 day fermentation run.

C1's Broad Applications and High Yield Level

DYADIC®

Fc-Fusion Protein
8.1 g/l
144 Hours
1.35 g/l/day

mAbs
9 g/l
90 Hours
2.4 g/l/day

Fab Antibody Fragment
9.1 g/l
115 Hours
1.9 g/l/day

Therapeutic Proteins

C1 Gene Expression Platform

Vaccines/Antigens/Virus Like Particles (VLP)

Hemagglutinin (HA)
413 mg/l
137 Hours
72 mg/l/day

Antigen
723 m/g
94 Hours
185 mg/l/day

VLP
300 mg/L
112 Hours
64mg/l/day

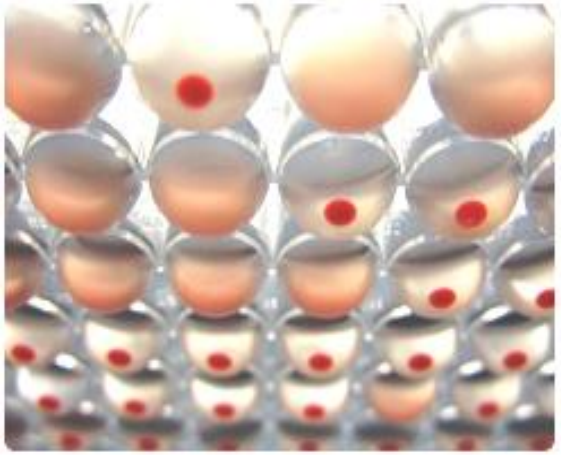
Sanofi-Pasteur Study: C1 Expression of 5 Recombinant HA's

C1, Ability to Express Biologically active Hemagglutinin (HA)'s

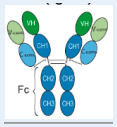
Influenza strain	Expression	Bioactive HA
New Caledonia, A (H1N1)	Yes	Yes
Texas, A (H1N1)	Yes	Yes
Puerto Rico A (H1N1)	Yes	Yes
California, A (H1N1)	Yes	Yes
Florida B	Yes	Yes

From Mice Study of Full length of HA produced in C1:

- No indication of negative clinical signs in mice.
- Showed excellent immunogenic properties in mice.
- C1 can produce ~1 g/L of HAs and other antigens in 4 - 7 days fermentation



Products Development for Biosimilars Market

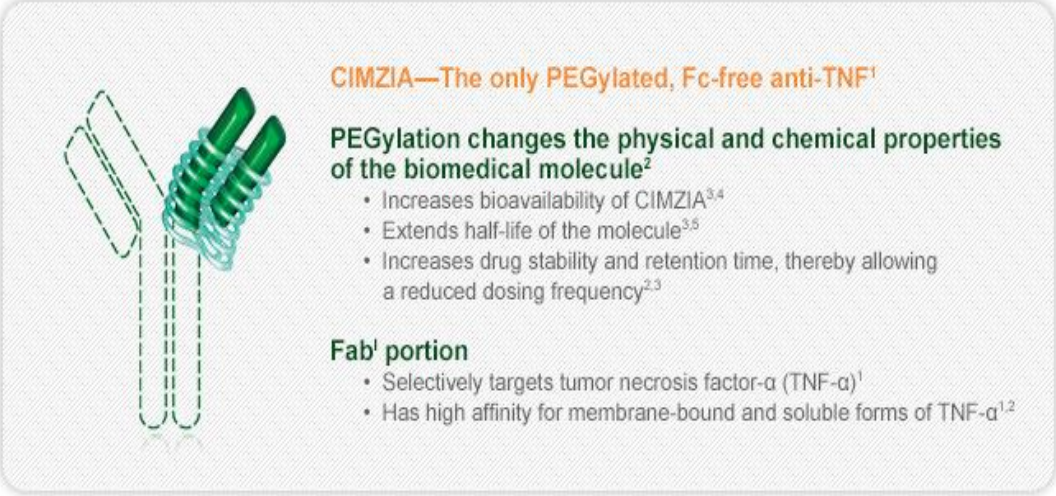
Candidate	Structure	Applications	Market Volume (*) ($M)	Status (30L Fermentation)
SP-VP2 (extracellular)	VLP 	Animal Vaccines	N/A	Successful
Pembrolizumab (Keytruda)	mAb (IgG1)	Oncology	1,402	Successful
Bevacizumab (Avastin)			7,000	On going
Infliximab (Remicade)			6,900	Successful
Nivolumab (Opdivo)	mAb (IgG4) 	Inflammatory diseases	4,700	Successful
Certolizumab pegol (Cimzia)	PEGYlated-Fab 		1,500	9.1 g/l (1.9 g/l/d)
Blinatumomab (Blincyto)	Bi-specifc scFV 	Oncology	~250	Successful
Ranibizumab (Lucentis)	Fab 		4,250	On going

(*) GlobalData 2017

(**) Fermentation in 1L scale

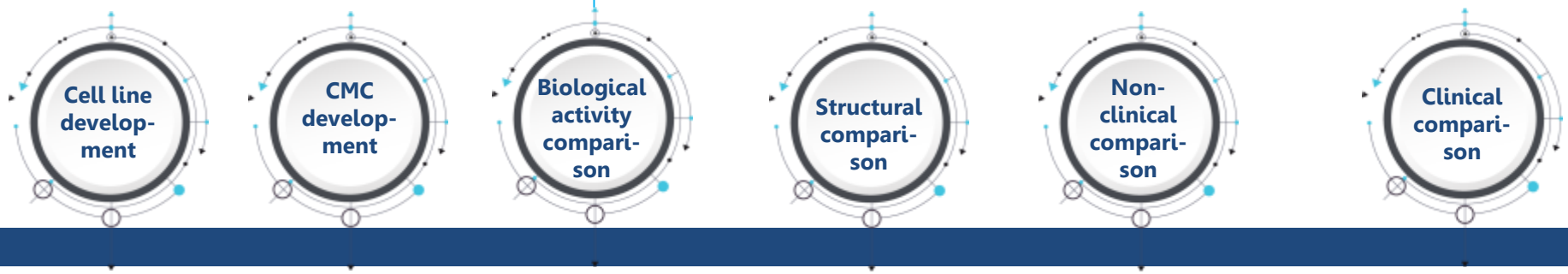
Cimzia® Information

- Certolizumab pegol, the drug substance of Cimzia® is a recombinant, humanized Fab antibody.
- It lowers inflammation in the body by blocking a protein called TNF (tumor necrosis factor).
- Certolizumab Cimzia® is manufactured by UCB and used to treat Crohn's disease, arthritis and other autoimmune disorders.



Roadmap for Biosimilar Certolizumab Development

CMC development and batches production (GMP for clinical assays)
Optimization of process & product quality attributes profile, cell line characterization & stability, formulation & product stability testing.



Generation of producing strain

- In 30L bioreactor
- 9.1 g/l, (1.9 g/l/day) production rate

USP&DSP development

In Bench scale: using protein L
Achieved:

- recovery yields >90% and
- Purities >85%

In vitro assays to compare product mechanisms of action.

- Primary: TNFα neutralization by binding and inhibition of cell signaling for proliferation
- Secondary: activation of immune responses as CDC, ADCC....

Analytics to compare the structural & physicochemical characteristics of product vs. commercial reference

- *In vitro* PD studies to compare neutralization. activity, CDC, ADCC and apoptotic effects and cross-reaction with human tissues
- *In vivo* PK studies to detect products in animal serum & to measure anti-products Ab concentration
- *In vivo* toxicity & toxic kinetics assays

- 1 year Phase I trial to determine PK equivalence (mainly safety) in AS patients (250)
- 2 year Phase I pilot study for RA patients (19)
- 1 year Phase III trial to mainly determine therapeutic equivalence in RA patients (606)

* Based on EMA assessment report for approval of an Infliximab (anti-TNFα) biosimilar (2013)

Key Milestones and Corporate Events

• Proved C1 strain development time ~ 3 months, faster than CHO	Q1 2018 ✓
• No O-Glycosylation on proteins tested to date	Q1 2018 ✓
• Developed low-cost defined media without yeast extract	Q1 2018 ✓
• Higher productivity level (yield/day) than CHO: mAbs 2.4 g/l/d, Fc-Fusion 1.3 g/l/d and Fab 1.9 g/l/d	Q2 2018 ✓
• Proved C1 can express various genes & difficult-to-express proteins	Q2 2018 ✓
• Validated C1 protease expression library in *Pichia*	Q2 2018 ✓
• C1 host cell improvement with 8 protease genes deleted	Q2 2018 ✓
• Achieved C1 yield level of 9.1 g/l (1.9 g/l/d) w/Certolizumab (biological drug component of Cimzia® Pegol)	Q2 2018 ✓
• Announced 4 new research collaborations incl. Mitsubishi Tanabe & IIBR	1H 2018 ✓
• Announced Sanofi-Aventis collaboration	Q3 2018 ✓
• Intend to file Form 10 and become a fully reporting SEC company	Q1 2019

THANK YOU!

DYADIC®

Ping Rawson

Chief Accounting Officer

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