



Dyadic International, Inc.
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OTCQX: DYAI

Shares Outstanding (as of 2/22/2019): ~26.7M
Stock Price (as of 2/22/2019): \$2.85
Market Capitalization (as of 2/22/2019): ~\$76.1M
Cash & Liquid Investments (as of 9/30/2018): ~\$42.8M



About Dyadic

Dyadic International, Inc. is a global biotechnology company focused on improving and applying its proprietary C1 gene expression platform, based on a patented and proprietary genetically modified strain of the fungus *Myceliophthora thermophila*, to address opportunities in the human and animal health markets. C1 is a potentially game-changing biopharmaceutical gene expression platform that may help bring biologic drugs to market faster than existing expression platforms, such as Chinese hamster ovary (CHO) cells, *E. coli* and others, in greater volumes, at lower cost and with new properties that can improve access and cost to patients and the healthcare system.

Dyadic's C1 Gene Expression Platform: Faster, Viable, More Efficient, Cost-Effective

Research data generated in our third-party collaborations and our own internal research programs indicate that C1 is capable of expressing a variety of vaccines and therapeutic proteins, such as human and animal recombinant antigens, vaccines, Virus like Particles (VLPs), monoclonal antibodies (mAbs), bi-specific antibodies, Fc-Fusions, Fabs and certain difficult-to-express antibodies, at a higher productivity level than other gene expression platforms. Dyadic pursues R&D collaborations, licensing arrangements and other commercial opportunities with its partners and collaborators in the development and manufacture of biopharmaceuticals.

Industrially Proven Platform Technology: DuPont Transaction and Licensing Agreements

C1 technology has been used for producing commercial quantities of enzymes and other proteins for decades and it has previously been licensed to leading industrial companies, including Abengoa, BASF, Codexis, Shell and DuPont to produce numerous industrial products and applications at low cost and large volumes. In 2015, Dyadic sold its C1 technology for industrial use to DuPont for \$75 million while retaining co-exclusive rights to use the C1 technology in human and animal pharmaceutical applications, with the exclusive ability to enter into sub-license agreements. DuPont retained certain rights to use the C1 technology in pharmaceutical applications, for which Dyadic will receive royalty payments upon commercialization.

Biopharmaceutical R&D Collaborations

- Zoonoses Anticipation and Preparedness Initiative (ZAPI) Vaccination Program: 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.
- 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 bi-specific mAbs, etc.) to determine which, if any, of these proteins might be potential candidates for future commercialization.
- Mitsubishi Tanabe Pharma Corp.: Funded proof-of-concept research collaboration to explore the potential of C1 technology to produce two difficult-to-express vital therapeutic proteins for human health indications.
- Israel Institute for Biological Research (IIBR): Evaluating C1 platform for the development and manufacture of recombinant vaccines and neutralizing agents comprising targeted antigens and monoclonal antibodies.

- Sanofi-Aventis Deutschland GmbH: Funded proof-of-concept research collaboration to explore the potential of its C1 technology to produce multiple types of biologic vaccines and drugs of interest for human health indications.
- Sanofi-Pasteur: Prior collaboration indicated C1-produced influenza antigen generated an equal or better immune response in mice than the industry-standard antigen used in the mice trial and no negative effects on the health of the mice observed.





Two US National Academy of Engineer Board of Directors and Experienced Management Team

- ✦ **Dr. Arindam Bose:** 34 years at Pfizer, where for his last six years, served as Vice President of Bio Therapeutics Pharmaceutical Sciences External Affairs and Biosimilars Strategy.
- ✦ **Dr. Barry Buckland:** 29 years at Merck, where his last senior R&D leadership position was Vice President Bioprocess R&D, focusing on fermentation and bioprocess development and the commercial manufacturing of biologics.
- ✦ **Mark Emalfarb, Founder, President & CEO:** Inventor of 25+ U.S. and foreign biotechnology patents related to Dyadic's proprietary C1 fungus. Formation of several strategic research and development, manufacturing and marketing relationships with U.S. and international partners since founding the company in 1979.
- ✦ **Dr. Ronen Tchelet, VP of Research:** More than 15 years of experience in research and pharmaceutical industry incl. CTO of Biotech at the API Division of TEVA Pharmaceuticals and founder and Managing Director of Codexis Laboratories Hungary. Ph.D. in Molecular Microbiology and Biotechnology from Tel Aviv University in 1993 and Postdoctoral as an EERO fellow at the Institute of Environmental Science and Technology (EAWAG) in Switzerland.
- ✦ **Matthew Jones, Chief Commercial Officer:** More than 20 years' life science and BioPharma industry leadership as well as Private Equity deal making advisory experience incl. Concept Life Sciences, Lonza, Bain, Ricerca BioSciences, MDS Pharma Services, Alkermes and GlaxoSmithKline.
- ✦ **Ping Rawson, Chief Accounting Officer:** More than 15 years' finance and accounting experience, incl. 7 years at Deloitte. MBA and MS in Accounting from SUNY Buffalo and CPA in New York State.

Scientific and Business Development Milestones/Corporate Events

Expression time: Proved C1 can express gene in 3 mos., faster than CHO	Q1 2018 ✓
O-Glyco: Analytics to date show no O-Glycosylation on proteins tested	Q1 2018 ✓
Media optimization: Developed low-cost defined media without yeast extract	Q1 2018 ✓
Higher productivity/yield level than CHO: mAbs 2.4 g/l/d, Fc-Fusion 1.35 g/l/d and Fab 2.1 g/l/d	Q2 2018 ✓
Expression type: Proved C1 can express a variety of types of gene and difficult-to-express antibodies	Q2 2018 ✓
Protease knock-outs: Validated protease expression library in Pichia	Q2 2018 ✓
Host cell improvement: Generated a C1 host production organism with 8 protease genes deleted	Q2 2018 ✓
Announced 7 new research collaborations including Sanofi-Aventis, Mitsubishi-Tanabe & IIBR	Q1-Q3 2018 ✓
Shareholders approved a reverse stock split proposal	June 2018 ✓
Extension of existing stock repurchase agreement	August 2018 ✓
Achieved C1 yield level of 14.5 g/l (2.1 g/l/d) w/Certolizumab (biological drug component of Cimzia® Pegol)	Q3 2018 ✓
ZAPI: Demonstrated 7 times the initial target productivity of an antigen against the Schmallenberg virus (SBV)	Q3 2018 ✓
Filed a Form 10 and became an SEC reporting company	Q4 2018 & Q1 2019 ✓
Ranked No.36 on the OTCQX Best 50 (Total return of 36% in 2018)	Q1 2019 ✓

Safe Harbor Regarding Forward-Looking Statements: This fact sheet contains forward-looking statements. All statements other than statements of historical fact are forward-looking statements, which are often indicated by terms such as "anticipate," "believe," "could," "estimate," "expect," "goal," "intend," "look forward to," "may," "plan," "potential," "predict," "project," "should," "will," "would" and similar expressions. Forward-looking statements are based on management's beliefs and assumptions and on information available to management only as of the date of this press release. 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. Investors are urged to consider these factors carefully in evaluating the forward-looking statements and are cautioned not to place undue reliance on such forward-looking statements. 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 include, but are not limited to: (1) general economic, political and market conditions; (2) our ability to generate the required productivity, stability, purity, performance, cost, safety and other data necessary to carry out and implement our biopharmaceutical research and business plans and strategic initiatives; (3) our ability to retain and attract employees, consultants, directors and advisors; (4) our ability to implement and successfully carry out Dyadic's and third parties research and development efforts; (5) our ability to obtain new license and research agreements; (6) our ability to maintain our existing access to, and/or expand access to third party contract research organizations in order to carry out our research projects for ourselves and third parties; (7) competitive pressures and reliance on key customers and collaborators; (8) the pharmaceutical and biotech industry, governmental regulatory and other agencies' willingness to adopt, utilize and approve the use of the C1 gene expression platform; and (9) other factors discussed in Dyadic's publicly available filings, including information set forth under the caption "Risk Factors" in our Form 10 filed with the SEC on February 8, 2019, our December 31, 2017 Annual Report filed with the OTC Markets on March 27, 2018, and our September 30, 2018 Quarterly Report filed with the OTC Markets on November 8, 2018, and our other filings with the SEC which are available at the SEC's internet site (<http://www.sec.gov>). 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.