

JOHN A. TODD, PhD

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OVERVIEW

A seasoned pragmatic biotech executive with 30 plus years of accomplishments in the in vitro diagnostics and life science tools space. Expertise includes: strategic planning, clinical research/outcomes, biomarker discovery, product development, product launches, IP development/management, Key Opinion Leader development fundraising (dilutive and non-dilutive), strategic partnering and business development. Experience covers discovery research through product development and launches at Singulex, Chiron Diagnostics, Bayer Diagnostics and Pandex-Baxter Healthcare. Deep industrial grade experience across numerous technologies (protein and NAAT) and disease areas including cardiology, virology, microbiology, oncology and neurology as documented through 76 peer-reviewed publications, >100 presentations at scientific congresses, 30 patents and 6 SBIR grants/contracts.

PROFESSIONAL EXPERIENCE

JTConsulting**2019-Present**

Business: In vitro diagnostics and life science tools

Principal and Founder

- Provide guidance and assist in strategic planning, fundraising (non-dilutive and dilutive), business development, technology assessment and development, clinical utility assessment and planning, KOL development, and Intellectual Property

SINGULEX, Alameda, CA**2004-2019**

Business: In vitro diagnostics

Core technology: Single Molecule Counting for ultrasensitive immunoassays

Senior Vice President and Chief Scientific Officer (2016-2019)

- Developed and managed all clinical programs, clinical research, and scientific research
- Established and Managed Companion Diagnostic programs with Pharma partners
- Developed the Clinical strategy for all Diagnostic products
- Provided strategic direction to CEO for corporate development
- Built the Clarity System Diagnostics business in the EU (expat status)
- Managed Singulex IP portfolio of 50+ patents/applications

Vice President, Clinical Research (2013-2016)

- Managed all Singulex clinical programs
- Developed new areas for clinical growth
- Created peer-review publication portfolio of over 200 publications showcasing Singulex technology

Business: Life science and clinical diagnostic immunoassays (Acquired by Millipore-Sigma 2015)

Vice President, Research and Development (2004-2013)

- Built and managed an industrial R&D team that provided high value immunoassay solutions to commercial partners.
- Managed all technical assay development and commercialization programs with BioPharma partners.
- Developed strategy and managed all scientific communications, including peer review publications presentations, and thought leader programs.

NUGEN TECHNOLOGIES (acquired by Tecan), San Carlos, CA

2003-2004

Business: Life Science tools

Core technology: Isothermal DNA/RNA amplification

Vice President, Marketing

- Launched three products within the Ovation™ line targeting gene expression analyses on Affymetrix GeneChip® /spotted arrays and real-time quantitative PCR in the \$100MM+ RNA amplification and labeling market
- Developed product positioning to obtain a 175% price premium for the Ovation™ RNA amplification and labeling product line.
- Managed all marketing activities including go-to-market plans, collateral development, corporate/product branding, and IR/PR activities.

LIFE SCIENCE CONSULTING

2000-2003

Halteres Associates, LLC, Emeryville, CA

- Under contract with the Bill and Melinda Gates Foundation executed numerous technology assessment programs and developed execution plans to introduce novel Dx markers into resource limited environments, such as sub-Saharan Africa.

NuGEN Technologies (acquired by Tecan) San Carlos, CA

- Identified unmet needs for gene expression analyses using microarrays and real-time PCR in the Life Science tools space via primary research, interviews, and resident knowledge.
- Built business cases for core RNA amplification and labeling technologies including product specs, market opportunities, competitive analyses, market research, and financial models.
- Established the basis for the NuGEN business model and “go direct” commercialization strategy.

Proteomic Systems, Santa Clara, CA

- Defined the business opportunity for the novel drug discovery technology (MembraneChip™) spun out of Stanford.
- Wrote business plan, pitched investment deal, negotiated term sheet, and established venture syndicate to raise series A round.

CareDx (formerly XDx), Brisbane, CA

- Created customized value propositions and strategic business solutions for gene profiling analyses in specific clinical diagnostic market segments including transplant rejection.
- Established the basis for XDx’s business model and supported securing venture financing, which closed Q1/2003.

ParAllele Bioscience, Inc. (acquired by Affymetrix, Inc.), Santa Clara, CA

- Developed business cases for a high throughput/high density genotyping platform in the life sciences sector resulting in closure of in Series B round of \$22.5MM.

Quantum Dot Corporation (acquired by Invitrogen Corporation), Hayward, CA

- Devised business opportunity for QDots core technology in gene expression analysis.
- Board-approved program was used to support a financing as well as secure instrument and distribution partners.

Protogene Laboratories, Inc, Menlo Park CA

- Secured several product development, co-marketing and technology access deals (Sequenom, Silicon Genetics, Boehringer Ingelheim, University Health Network, Canada) relating to Protogene's custom microarray technology.

CHIRON/BAYER DIAGNOSTICS, Emeryville, CA

1992-2000

Business: Molecular diagnostics

Core technology: Branched DNA quantification of viral genomes

Acquired by Bayer Diagnostics 1999

Senior Director, World Wide Clinical Marketing (1994-2000)

- Established the clinical value of HIV and hepatitis viral load measurement through strategic KOL, governmental, and pharmaceutical relationships
- Used clinical outcome approaches and health economic justification to create clinical demand for viral load (HIV and HCV) measurements which supported market pricing of >\$250/test.
- Responsible for worldwide clinical market development for viral load product lines

Director, Product Development, Nucleic Acid Diagnostics (1992-1993)

- Managed a team that developed and launched three products in the Quantiplex™ line

BAXTER HEALTHCARE INC., PANDEX DIVISION, Chicago IL

1988-1991

Business: Blood screening for infectious disease

Core technology: Fluorogenic immunoassays combined with proprietary automation

Acquired by Abbott Diagnostics 1991

Group Leader and Senior Manager, Assay Development

- Developed assays for HIV, HCV and *T.pallidum*

ENZO BIOCHEM, INC., New York, NY

1984-1987

Business: Molecular diagnostics

Core technology: Non-radioactive DNA probes for infectious disease diagnostics

Group Leader, Assay Development

Developed assays for HPV, CMV, HSV, chlamydia which were subsequently commercialized

EDUCATION

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| NEW YORK UNIVERSITY, New York, NY | 1981-1984 |
| <ul style="list-style-type: none">• Postdoctoral Training, Cell and Molecular Biology, Sabatini Lab | |
| UNIVERSITY OF SOUTHERN CALIFORNIA MEDICAL CENTER, Los Angeles, CA | 1981 |
| <ul style="list-style-type: none">• Ph.D., Biochemistry, Tokes Lab | |
| UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles, CA | 1976 |
| <ul style="list-style-type: none">• B.S., Biology | |

ADDITIONAL INFORMATION

- 76 Peer-Reviewed Publications, 150 Scientific presentations/abstracts
- 30 Issued Patents
- SBIR grants and contracts: Four Phase I (\$50-100K each) and two Phase II (\$2MM)

John A. Todd: Publications

1. Biegus, J., et al., Serial assessment of spot urine sodium predicts effectiveness of decongestion and outcome in patients with acute heart failure. *Eur J Heart Fail*, 2019.
2. Kosowski, M., et al., Cardiovascular stress biomarker assessment of middle-aged non-athlete marathon runners. *Eur J Prev Cardiol*, 2019. 26(3): p. 318-327.
3. Breidthardt, T., et al., Inflammatory Biomarkers and Clinical Judgment in the Emergency Diagnosis of Urgent Abdominal Pain. *Clin Chem*, 2019. 65(2): p. 302-312.
4. Sokolska, J.M., et al., Patterns of dyspnoea onset in patients with acute heart failure: clinical and prognostic implications. *ESC Heart Fail*, 2019. 6(1): p. 16-26.
5. Walter, J., et al., Clinical utility of circulating interleukin-6 concentrations in the detection of functionally relevant coronary artery disease. *Int J Cardiol*, 2019. 275: p. 20-25.
6. Bernasconi, R., et al., Fibroblast growth factor 23 and renal function among young and healthy individuals. *Clin Chem Lab Med*, 2018.
7. Karpouzas, G.A., et al., High-sensitivity cardiac troponin I is a biomarker for occult coronary plaque burden and cardiovascular events in patients with rheumatoid arthritis. *Rheumatology (Oxford)*, 2018.
8. Zymlinski, R., et al., Increased blood lactate is prevalent and identifies poor prognosis in patients with acute heart failure without overt peripheral hypoperfusion. *Eur J Heart Fail*, 2018.
9. Egli, P., et al., Relationships of kidney injury molecule-1 with renal function and cardiovascular risk factors in the general population. *Clin Chim Acta*, 2018. 478: p. 13-17.
10. Estis, J., et al., Comprehensive Age and Sex 99th Percentiles for a High-Sensitivity Cardiac Troponin I Assay. *Clin Chem*, 2018. 64(2): p. 398-399.
11. Sokolska, J.M., et al., Patterns of dyspnoea onset in patients with acute heart failure: clinical and prognostic implications. *ESC Heart Fail*, 2018.
12. Walter, J., et al., Clinical utility of circulating interleukin-6 concentrations in the detection of functionally relevant coronary artery disease. *Int J Cardiol*, 2018.
13. Sandlund, J., et al., Ultrasensitive Detection of *Clostridioides difficile* Toxins A and B by Use of Automated Single-Molecule Counting Technology. *J Clin Microbiol*, 2018. 56(11).
14. Bernasconi, R., et al., Fibroblast growth factor 23 and renal function among young and healthy individuals. *Clin Chem Lab Med*, 2018. 56(9): p. 1483-1489.
15. Karpouzas, G.A., et al., High-sensitivity cardiac troponin I is a biomarker for occult coronary plaque burden and cardiovascular events in patients with rheumatoid arthritis. *Rheumatology (Oxford)*, 2018. 57(6): p. 1080-1088.

16. Zymlinski, R., et al., Increased blood lactate is prevalent and identifies poor prognosis in patients with acute heart failure without overt peripheral hypoperfusion. *Eur J Heart Fail*, 2018. 20(6): p. 1011-1018.
17. Zymlinski, R., et al., Multi-organ dysfunction/injury on admission identifies acute heart failure patients at high risk of poor outcome. *Eur J Heart Fail*, 2018.
18. Miao, J., et al., Clinical utility of single molecule counting technology for quantification of KIM-1 in patients with heart failure and chronic kidney disease. *Clin Biochem*, 2017. 50(16-17): p. 889-895.
19. Kaess, B.M., et al., Ultra-sensitive troponin I is an independent predictor of incident coronary heart disease in the general population. *Eur J Epidemiol*, 2017. 32(7): p. 583-591.
20. Schoen, T., et al., Subclinical sleep apnoea and plasma levels of endothelin-1 among young and healthy adults. *Open Heart*, 2017. 4(1): p. e000523.
21. Sokolski, M., et al., Urinary levels of novel kidney biomarkers and risk of true worsening renal function and mortality in patients with acute heart failure. *Eur J Heart Fail*, 2017. 19(6): p. 760-767.
22. Zymlinski, R., et al., Elevated troponin I level assessed by a new high-sensitive assay and the risk of poor outcomes in patients with acute heart failure. *Int J Cardiol*, 2017. 230: p. 646-652.
23. von Rotz, M., et al., Risk factors for premature ventricular contractions in young and healthy adults. *Heart*, 2017. 103(9): p. 702-707.
24. Bossard, M., et al., Factors independently associated with cardiac troponin I levels in young and healthy adults from the general population. *Clin Res Cardiol*, 2017. 106(2): p. 96-104.
25. Krisai, P., et al., Healthy lifestyle and glucagon-like peptide-1 in young and healthy adults: A population-based study. *Prev Med*, 2017. 101: p. 72-76.
26. Krisai, P., et al., Relationships of iron metabolism with insulin resistance and glucose levels in young and healthy adults. *Eur J Intern Med*, 2016. 32: p. 31-7.
27. Lee, G., et al., Clinical benefit of high-sensitivity cardiac troponin I in the detection of exercise-induced myocardial ischemia. *Am Heart J*, 2016. 173: p. 8-17.
28. Emmens, J.E., et al., Plasma kidney injury molecule-1 in heart failure: renal mechanisms and clinical outcome. *Eur J Heart Fail*, 2016. 18(6): p. 641-9.
29. Attur, M., et al., Plasma levels of interleukin-1 receptor antagonist (IL1Ra) predict radiographic progression of symptomatic knee osteoarthritis. *Osteoarthritis Cartilage*, 2015. 23(11): p. 1915-24.
30. van der Stouwe, J.G., et al., Plasma levels of glucagon-like peptide 1 and markers of obesity among young and healthy adults. *Clin Endocrinol (Oxf)*, 2015. 83(5): p. 636-42.
31. Bossard, M., et al., Plasma endothelin-1 and cardiovascular risk among young and healthy adults. *Atherosclerosis*, 2015. 239(1): p. 186-91.
32. Gottlieb, S.S., et al., Prognostic significance of active and modified forms of endothelin 1 in patients with heart failure with reduced ejection fraction. *Clin Biochem*, 2015. 48(4-5): p. 292-6.

33. Krisai, P., et al., Glucagon-like peptide-1 and blood pressure in young and healthy adults from the general population. *Hypertension*, 2015. 65(2): p. 306-12.
34. Aeschbacher, S., et al., Relationship between high-sensitivity cardiac troponin I and blood pressure among young and healthy adults. *Am J Hypertens*, 2015. 28(6): p. 789-96.
35. Maeder, M.T., et al., Comprehensive biomarker profiling in patients with obstructive sleep apnea. *Clin Biochem*, 2015. 48(4-5): p. 340-6.
36. Jain, M., et al., Increased plasma IL-17F levels in rheumatoid arthritis patients are responsive to methotrexate, anti-TNF, and T cell costimulatory modulation. *Inflammation*, 2015. 38(1): p. 180-6.
37. Herman, E., et al., The utility of serum biomarkers to detect myocardial alterations induced by Imatinib in rats. *Pharmacol Res Perspect*, 2014. 2(1): p. e00015.
38. Herman, E.H., et al., The influence of age on serum concentrations of cardiac troponin I: results in rats, monkeys, and commercial sera. *Toxicol Pathol*, 2014. 42(5): p. 888-96.
39. Todd, J., et al., Reference range and short- and long-term biological variation of interleukin (IL)-6, IL-17A and tissue necrosis factor-alpha using high sensitivity assays. *Cytokine*, 2013. 64(3): p. 660-5.
40. Herman, E., et al., Baseline serum cardiac troponin I concentrations in Sprague-Dawley, spontaneous hypertensive, Wistar, Wistar-Kyoto, and Fisher rats as determined with an ultrasensitive immunoassay. *Toxicol Pathol*, 2011. 39(4): p. 653-63.
41. Herman, E.H., et al., A multifaceted evaluation of imatinib-induced cardiotoxicity in the rat. *Toxicol Pathol*, 2011. 39(7): p. 1091-106.
42. St Ledger, K., et al., Analytical validation of a highly sensitive microparticle-based immunoassay for the quantitation of IL-13 in human serum using the Erenna immunoassay system. *J Immunol Methods*, 2009. 350(1-2): p. 161-70.
43. Schultze, A.E., et al., Longitudinal studies of cardiac troponin-I concentrations in serum from male Sprague Dawley rats: baseline reference ranges and effects of handling and placebo dosing on biological variability. *Toxicol Pathol*, 2009. 37(6): p. 754-60.
44. Wu, A.H., et al., Short- and long-term cardiac troponin I analyte stability in plasma and serum from healthy volunteers by use of an ultrasensitive, single-molecule counting assay. *Clin Chem*, 2009. 55(11): p. 2057-9.
45. Wu, A.H., et al., Specificity of a high-sensitivity cardiac troponin I assay using single-molecule-counting technology. *Clin Chem*, 2009. 55(1): p. 196-8.
46. Schultze, A.E., et al., Ultrasensitive cross-species measurement of cardiac troponin-I using the Erenna immunoassay system. *Toxicol Pathol*, 2008. 36(6): p. 777-82.
47. Todd, J., et al., Ultrasensitive flow-based immunoassays using single-molecule counting. *Clin Chem*, 2007. 53(11): p. 1990-5.

48. Wu, A.H., et al., Development and preliminary clinical validation of a high sensitivity assay for cardiac troponin using a capillary flow (single molecule) fluorescence detector. *Clin Chem*, 2006. 52(11): p. 2157-9.
49. Thomas, D.L., et al., Determinants of the quantity of hepatitis C virus RNA. *J Infect Dis*, 2000. 181(3): p. 844-51.
50. Brambilla, D., et al., Absolute copy number and relative change in determinations of human immunodeficiency virus type 1 RNA in plasma: effect of an external standard on kit comparisons. *J Clin Microbiol*, 1998. 36(1): p. 311-4.
51. Tsoukas, C.M., et al., Active immunization of patients with HIV infection: a study of the effect of VaxSyn, a recombinant HIV envelope subunit vaccine, on progression of immunodeficiency. *AIDS Res Hum Retroviruses*, 1998. 14(6): p. 483-90.
52. Mellors, J.W., et al., Plasma viral load and CD4+ lymphocytes as prognostic markers of HIV-1 infection. *Ann Intern Med*, 1997. 126(12): p. 946-54.
53. Harris, M., et al., Correlation of virus load in plasma and lymph node tissue in human immunodeficiency virus infection. INCAS Study Group. Italy, Netherlands, Canada, Australia, and (United) States. *J Infect Dis*, 1997. 176(5): p. 1388-92.
54. Holodniy, M., et al., Quantitative relationship between platelet count and plasma virion HIV RNA. *Aids*, 1996. 10(2): p. 232-3.
55. Mellors, J.W., et al., Prognosis in HIV-1 infection predicted by the quantity of virus in plasma. *Science*, 1996. 272(5265): p. 1167-70.
56. Welles, S.L., et al., Prognostic value of plasma human immunodeficiency virus type 1 (HIV-1) RNA levels in patients with advanced HIV-1 disease and with little or no prior zidovudine therapy. AIDS Clinical Trials Group Protocol 116A/116B/117 Team. *J Infect Dis*, 1996. 174(4): p. 696-703.
57. Coombs, R.W., et al., Association of plasma human immunodeficiency virus type 1 RNA level with risk of clinical progression in patients with advanced infection. AIDS Clinical Trials Group (ACTG) 116B/117 Study Team. ACTG Virology Committee Resistance and HIV-1 RNA Working Groups. *J Infect Dis*, 1996. 174(4): p. 704-12.
58. Sperling, R.S., et al., Maternal viral load, zidovudine treatment, and the risk of transmission of human immunodeficiency virus type 1 from mother to infant. Pediatric AIDS Clinical Trials Group Protocol 076 Study Group. *N Engl J Med*, 1996. 335(22): p. 1621-9.
59. Kern, D., et al., An enhanced-sensitivity branched-DNA assay for quantification of human immunodeficiency virus type 1 RNA in plasma. *J Clin Microbiol*, 1996. 34(12): p. 3196-202.
60. Yen-Lieberman, B., et al., Evaluation of a quality assurance program for quantitation of human immunodeficiency virus type 1 RNA in plasma by the AIDS Clinical Trials Group virology laboratories. *J Clin Microbiol*, 1996. 34(11): p. 2695-701.

61. Holodniy, M., et al., Comparative stabilities of quantitative human immunodeficiency virus RNA in plasma from samples collected in VACUTAINER CPT, VACUTAINER PPT, and standard VACUTAINER tubes. *J Clin Microbiol*, 1995. 33(6): p. 1562-6.
62. Mellors, J.W., et al., Quantitation of HIV-1 RNA in plasma predicts outcome after seroconversion. *Ann Intern Med*, 1995. 122(8): p. 573-9.
63. Cao, Y., et al., Clinical evaluation of branched DNA signal amplification for quantifying HIV type 1 in human plasma. *AIDS Res Hum Retroviruses*, 1995. 11(3): p. 353-61.
64. Pacht, C., et al., Rapid and precise quantification of HIV-1 RNA in plasma using a branched DNA signal amplification assay. *J Acquir Immune Defic Syndr Hum Retrovirol*, 1995. 8(5): p. 446-54.
65. Todd, J., et al., Performance characteristics for the quantitation of plasma HIV-1 RNA using branched DNA signal amplification technology. *J Acquir Immune Defic Syndr Hum Retrovirol*, 1995. 10 Suppl 2: p. S35-44.
66. Dewar, R.L., et al., Application of branched DNA signal amplification to monitor human immunodeficiency virus type 1 burden in human plasma. *J Infect Dis*, 1994. 170(5): p. 1172-9.
67. Mole, L., et al., Stabilities of quantitative plasma culture for human immunodeficiency virus, RNA, and p24 antigen from samples collected in VACUTAINER CPT and standard VACUTAINER tubes. *J Clin Microbiol*, 1994. 32(9): p. 2212-5.
68. Urdea, M.S., et al., Direct and quantitative detection of HIV-1 RNA in human plasma with a branched DNA signal amplification assay. *Aids*, 1993. 7 Suppl 2: p. S11-4.
69. Todd, J., et al., A novel semi-automated paramagnetic microparticle based enzyme immunoassay for hepatitis C virus: its application to serologic testing. *J Immunoassay*, 1992. 13(3): p. 393-410.
70. Byrne, R.E., et al., Evaluation of a *Treponema pallidum* western immunoblot assay as a confirmatory test for syphilis. *J Clin Microbiol*, 1992. 30(1): p. 115-22.
71. Leahy, D.C., D.O. Shah, and J.A. Todd, A method for attachment of peptides to a solid surface with enhanced immunoreactivity. *Biotechniques*, 1992. 13(5): p. 738-43.
72. Todd, J.A., et al., A rapid DNA probe test for detecting human papilloma virus types 6/11 and 16 in biopsy specimens. *Mol Cell Probes*, 1989. 3(3): p. 273-88.
73. Amar-Costesec, A., J.A. Todd, and G. Kreibich, Segregation of the polypeptide translocation apparatus to regions of the endoplasmic reticulum containing ribophorins and ribosomes. I. Functional tests on rat liver microsomal subfractions. *J Cell Biol*, 1984. 99(6): p. 2247-53.
74. Todd, J.A., et al., Liposome encapsulation enhancement of methotrexate sensitivity in a transport resistant human leukemic cell line. *Biochem Pharmacol*, 1982. 31(4): p. 541-6.
75. Tokes, Z.A., A.K. St Peteri, and J.A. Todd, Availability of liposome content to the nervous system. Liposomes and the blood-brain barrier. *Brain Res*, 1980. 188(1): p. 282-6.

76. Todd, J.A., A.M. Levine, and Z.A. Tokes, Liposome-encapsulated methotrexate interactions with human chronic lymphocytic leukemia cells. J Natl Cancer Inst, 1980. 64(4): p. 715-9.

Bio Sketch 24APR2025

John A. Todd, Ph.D.

Dr. John Todd is a seasoned biotech executive with over 35 years of accomplishments in the IVD and life science tool spaces. Most recently he served as Chief Scientific Officer at Singulex, where over 12 years he leveraged his industrial experience and leadership to develop diagnostic products based upon novel SMC technology. Prior to joining Singulex, he held leadership and executive positions at numerous healthcare companies including Chiron Diagnostics, Bayer Diagnostics, Baxter Healthcare, NUGEN Technologies, and ENZO Diagnostics. John's areas of expertise include: strategic planning, biomarker discovery, clinical research/outcomes, KOL development, product development, product launches, clinical marketing, IP development and management, fundraising, strategic partnering and business development. John has deep experience across numerous technologies (protein and NAAT) and disease areas including cardiology, virology, microbiology, oncology and neurology. He has authored over 75 peer-reviewed publications, made over 100 presentations at scientific congresses, and has over 30 issued and pending patents. In addition, he was awarded 6 SBIR grants and contracts from the NIH. John received his BS in Biology from the University of Southern California and his PhD in Biochemistry from USC Medical Center (Los Angeles), followed by post graduate training in Cell and Molecular Biology in the Sabatini lab at New York University Medical Center.

