

Joel S. Tabb

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Ionica Sciences
McGovern Center
414 Weill Hall/Cornell University
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EDUCATION

The University of Michigan

Ann Arbor, MI

Ph.D. Biological Chemistry

1989

Thesis: "Aromatic Amino Acid Transport Proteins in Mammalian Cells"

Advisor: Professor H.N. Christensen

Brandeis University

Waltham, MA

Major: Biochemistry

1983

WORK EXPERIENCE

Ionica Sciences

Ithaca, NY

Co-Founder and President

2013-Present

- Developed a novel antigen-based Lyme disease diagnostic assay based on DNA aptamers and Surface Enhanced Raman Scattering
- Awarded Air Force Phase I STTR: Real time detection of stress- and fatigue-related biomarkers using vibrational spectroscopy 12/2014
- Awarded DARPA Phase I SBIR: Surface Enhanced Raman Scattering Based Oxytocin Quantitation 11/2013

Agave BioSystems

Ithaca, NY

Principal Scientist

1999-2013

Developed and managed multiple team efforts directed towards the detection of pathogens and toxic chemicals in complex samples, such as human serum or soil samples.

- Responsible for the procurement of over 25 SBIR Phase I and 15 Phase II awards, resulting in greater than \$12 million in funding
- Awarded SBIR funding from US Army, US Air Force, DARPA, NIH, CDC, NASA, and US EPA
- Developed novel fluorescent antibody-based system for the detection and mapping of TNT in soil samples - US Army Corps of Engineers
- Developed isothermal DNA amplification systems for the detection of Dengue virus and Q-Fever in humans – US Army

Cornell University College of Veterinary Medicine

Ithaca, NY

Research Scientist

1996-1999

Characterized second messenger pathways associated with cellular and endocrine changes in bovine ovarian follicles

Dartmouth College and Marine Biological Laboratories

Hanover, NY and Woods Hole, MA

Research Scientist

1991-1996

Identified and characterized the myosin V molecular motor proteins involved in transporting vesicles and other organelles through the squid giant axon

Pertinent Publications and Funding

Ionica Sciences - Funding

1. US Air Force Phase I STTR, “Real Time Detection of Stress & Fatigue Related Biomarkers Using Vibrational Spectroscopy”, Contract FA8650-15-M-6591, 2014. \$150,000
2. DARPA SBIR Phase I SBIR, “Surface Enhanced Raman Scattering-Based Oxytocin Quantitation”, Contract W31P4Q-14-C-0028, 2013. \$100,000

Agave BioSystems – Selected Funding

1. US Air Force STTR Phase I & Phase II, “Intracellular Detection of Small Molecules in Live Cells”, Contract FA8650-14-C-5192, 2012. \$810,000.
2. DARPA SBIR Phase I SBIR, “Ionic Liquid-Based Dried Biological Specimen Materials”, Contract W31P4Q-12-C-0017, 2012. \$100,000
3. US Army SBIR Phase I & Phase II, “A Point-of-Care Field Assay for Dengue Viruses”, Contract W81XWH-10-C-0038, 2011. \$930,000.
4. US Army Phase I & Phase II SBIR, “Point-of-Care Diagnostic for Acute Q Fever using LAMP”, Contract W81XWH-09-C-0036, 2011. \$880,000.
5. US Army SBIR Phase I & Phase II “A High-Throughput Blood Esterase Panel Assay”, Contract W81XWH-10-C-0063, 2011, \$850,000

Publications

1. C.R. Smith, **J.S. Tabb** (2010) “Using Encapsulated Fluorescent Bioprobes to Detect Explosive Materials in Soil” *J. of ERW and Mine Action*, **2010**, vol 1.5.1
2. T. Curtis, R.M. Naal RM, C. Batt, **J. Tabb**, D.Holowka (2008) “Development of a mast cell-based biosensor” *Biosens. and Bioelectron*, **2008**, 23, 1024-1031
3. M.A. Hahn, **J.S. Tabb**, T.D. Krauss “Detection of single bacterial pathogens with semiconductor quantum dots”. *Anal Chem.* **2005**, 77, 4861-4869.
4. R.M. Naal, **J. Tabb**, D. Holowka, B. “Baird In situ measurement of degranulation as a biosensor based on RBL-2H3 mast cells”. *Biosens Bioelectron.*, **2004**, 20(4), 791-796.
5. J.G. Bruno, S.J. Ulvick, G.L. Uzzell, **J.S. Tabb**, E.R. Valdes, C.A. Batt “Novel immuno-FRET assay method for Bacillus spores and Escherichia coli O157:H7”. *Biochem Biophys Res Commun* ;**2001**, 287, 875-80.
6. **J.S. Tabb**, B.J. Molyneaux, D.L. Cohen, S.A. Kuznetsov, G.M. Langford “Transport of ER vesicles on actin filaments in neurons by myosin V”. *J. Cell Sci.* **1998**, 111, 3221-34.
7. C.M. Waterman-Storer, G.M. Langford, S.A. Kuznetsov, **J.S. Tabb**, S. Karki, D.G. Weiss, E.L.F. Holzbaur “The interaction between dynactin and cytoplasmic dynein is required for fast axonal transport”, *Proc. Natl. Acad. Sci., USA*, **1997**. 94, 12180-12185.
8. **J.S. Tabb**, K.O. Harmon, A.S. DePina, G.M. Langford “Localization of myosin on tubulovesicular organelles in the squid giant axon by immuno-EM”, *Biol. Bull*, **1996**, 191, 274-275.