

C. SHANE ARNOLD

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PROFESSIONAL EXPERIENCE

BioCryst Pharmaceuticals, Inc. 2000-2007

Peramivir Project Director

2007

Supervisor: *Dr. J. Claude Bennett, President, COO*

Established and maintained relationships with the U.S. Government through direction of BioCryst communications within the Department of Health and Human Services
Established project timelines for DHHS contract and served as Vice-Chair on the Peramivir Project Steering Committee
Served on BioCryst-Shionogi (Japan) Peramivir Nonclinical Subcommittee
Facilitated project management through the maintenance of collaborations with strategic consultants, KOLs, and interdepartmental project teams

Director of Peramivir Development

2006

Supervisors: *Drs. J. Claude Bennett, President, COO; and Charles E. Bugg, CEO and Chairman*

Presented peramivir data to pharmaceutical corporations, NIAID/NIH, Korean regulatory agencies, and the International Bird Flu Summit
Reviewed and edited press releases, participated in analyst and press interviews
Worked with consultants and members of the Board of Directors to construct and submit RFI and RFP documents for influenza antivirals
Worked with lobbyists, U.S. legislators and the U.S. Department of Health and Human Services to issue U.S. Government contracts for the acquisition of antivirals for the Strategic National Stockpile
Prepared clinical and nonclinical FDA documentation for peramivir's investigational use as an injection in humans
Established and coordinated peramivir nonclinical projects at high-containment level facilities to evaluate the drug's efficacy in highly pathogenic avian influenza
Constructed and monitored timelines by integrating clinical, regulatory, CMC nonclinical, and analytical components to proactively manage the peramivir project

Research Biologist I-II

2000-2005

Supervisor: *Dr. Shanta Bantia, Executive Director of Research Biology*

Created technical documents for corporate development opportunities
Developed and performed in vitro and in vivo studies to evaluate the potency and efficacy of peramivir, as well as other oncology and anticoagulant/anti-inflammatory investigational compounds
Participated in lead drug candidate identification and optimization
Authored and reviewed manuscripts for publication
Trained and supervised laboratory technicians

ACADEMIC DEGREES

M.B.A. – *Technology Commercialization and Entrepreneurship* (August 2008)
University of Alabama at Birmingham, School of Business
Birmingham, Alabama

IN PROCESS

Doctoral Fellowship- Johns Hopkins University School of Medicine
Dept of Biological Chemistry
Baltimore, Maryland

1998-2000

Ph.D. - *Biochemistry and Molecular Genetics* (August 2000)
University of Alabama at Birmingham, Graduate School
Birmingham, Alabama

1993-2000

B.S. – *Cell and Molecular Biology* (May 1993)
Tulane University, College of Arts and Sciences
New Orleans, Louisiana

1988-1993

HONORS AND AWARDS

Judge Joseph A. Breaux Full Scholarship Award (1988) **Tulane University**
Cold Spring Harbor Travel Award (1996) **National Institute of Mental Health**

GRANTS & CONTRACTS

U. S. Department of Health and Human Services Contract RFP-DHHS-ORDC-V&B-06-01
Advanced Development of New Antiviral Agents for Influenza.
Principal Author and Co-Investigator
Award **\$102,600,000**

Jan, 2007

Small Business Innovation Research Award (SBIR) NHLBI/NIH
Effects of Tissue Factor/ Factor VIIa Inhibition in CRP-Transgenic Mice
Principal Investigator
Award **\$97,990**

Apr, 2004

PRESENTATIONS

Corporate Development:

Presented BioCryst drug development programs to pharmaceutical corporations
in Asia, Europe, and the United States.
International presentations of the peramivir development program included numerous
Potential partners in China as well as Japanese and Korean corporations.
Successful partnerships established with Shionogi (Japan) and Green Cross (Korea)

Scientific:

Seasonal and Pandemic Influenza, Washington DC	2007
ICAAC, San Francisco, CA	2006
Korean CDC/FDA, Seoul, South Korea	2006
Korean Avian Influenza Symposium, Seoul, South Korea	2006
Collaborative Antiviral Study Group, Bethesda, MD	2006
The Bird Flu Summit, Washington DC	2006
National Institutes of Allergies and Infectious Diseases, NIH, Bethesda, MD	2005
Society of Neuroscience, Miami, FL	1995

PATENTS

Babu, Y.S., Chand, P., Bantia, S., **Arnold, C.S.** Intramuscular Antiviral Treatments
International Patent Application No. PCT/U.S. 2006/013535 Submitted April 12, 2006

Babu, Y.S., Chand, P., Bantia, S., **Arnold, C.S.** Intravenous Antiviral Treatments
U. S. Patent Application No. 60/772,748 Submitted February 13, 2006

PUBLICATIONS

Boltz, D.A., Ilyushina, N.A., **Arnold, C.S.**, Babu, Y.S., Webster, R.G., Govorkova, E.G. (2007)
Intramuscular administration of neuraminidase inhibitor peramivir promotes survival against lethal H5N1 influenza infection in mice *Abstract presented at ICAR-Manuscript submitted*

Yun N.E., Linde N.S., Zacks M.A., Barr I.G., Hurt A.C., Smith J.N., Dziuba N., Holbrook M.R., Zhang L, Kilpatrick, JM, **Arnold C.S.**, and Paessler S. (2007) Injectable peramivir mitigates disease and promotes survival in ferrets and mice infected with the highly virulent H5N1 influenza virus isolate A/Vietnam/1203/04 *Submitted*

Zhang J., Krishnan R., **Arnold C.S.**, Mattson, E., Kilpatrick, J.M., Bantia, S., Dehghani, A, Boudreaux, B., Gupta, S.N., Kotian, P., Chand, P. (2006) Discovery of Highly Potent Small Molecule Kallikrein Inhibitors *Med Chem*; 2(6) 545-553.

Bantia S., **Arnold C.S.**, Parker C.D., Upshaw R., Chand P. (2006) Anti-influenza virus activity of peramivir in mice with single intramuscular injection. *Antiviral Res*; 69(1):39-45.

Arnold, C.S., Parker C., Upshaw R., Prydz H., Chand P., Kotian P., Bantia S., Babu, Y.S. (2006) The antithrombotic and anti-inflammatory effects of BCX-3607, a small molecule tissue factor/factor VIIa inhibitor. *Thromb Res*. 117(3):343-9.

Arnold, C.S., Hart, G. W. (1999) Dynamic cytoskeletal glycosylation and neurodegenerative disease. *Trends in Glycoscience and Glycotechnology* **11**(62):355-370.

DeLamatre, J. G., Gabaldon, D. M., **Arnold, C.S.**, Sarphe, T. G., Hornick, C. A. (1998) Hepatic metabolism of oxidatively modified apo E-free high-density lipoproteins. *Liver* 18 (4): 264-271.

Arnold, C.S., Johnson, G.V., Cole, R.N., Dong, D.L., Lee, M., Hart, G.W.(1996) The Microtubule-associated protein tau is extensively modified with O-linked N-acetylglucosamine. *J. Biol. Chem.* 271 (46): 28741-28744.

Hart, G.W., Kreppel, L.K., Comer, F.I., **Arnold, C.S.**, Snow, D.M., Ye, Z., Cheng, X., DellaManna, D., Caine, D.S., Earles, B.J., Akimoto, Y., Cole, R.N., Hayes, B.K. (1996) O-GlcNAcylation of key nuclear and cytoskeletal proteins: reciprocity with O-phosphorylation and putative roles in protein multimerization. *Glycobiology* (7): 711-716.

Frank, S. J., Gilliland, G., Kraft, A. S., **Arnold, C.S.** (1994) Interaction of the growth hormone receptor cytoplasmic domain with the JAK2 tyrosine kinase. *Endocrinology* 135 (5): 2228-2239.

