
***Executive and Project Leadership Linking Emergent Innovation with Value-Creating Strategies,
Partnerships and Investments***

Results oriented executive level professional with more than 20 years of cross-functional experience in areas critical to the success of emerging and established biopharmaceutical companies, including: development of presentations for investors, project planning and management, strategic portfolio management and integration, business development, operations contracting, and operations re-engineering to optimize R&D productivity. Extensive “hands-on” and management experience gained in a series of global positions with Bayer Healthcare and with Aerovance, a venture-backed spin-out company focused on developing respiratory therapies. Demonstrated effectiveness in creating operational, strategic and leadership processes essential to attaining milestones and bringing innovation to fruition. Fluent in research, process development, clinical, preclinical, regulatory, marketing and financial aspects of biopharmaceutical development. Working knowledge of key therapeutic areas (including Asthma, COPD, Cancer, Diabetes, Multiple Sclerosis, Cystic Fibrosis, Eczema) and delivery technologies (infusion, injection, inhalation, depot).

PROFESSIONAL EXPERIENCE:

I. BIOPHARMACEUTICAL INTERIM EXECUTIVE AND PROJECT MANAGEMENT

ZephyrBiotech LLC, Oakland, CA
Founding Partner

2008-present

- Co-Founder of ZephyrBiotech LLC, focused on designing, leading and managing cross-functional teams and processes on an interim basis to bring early stage biopharmaceutical programs to a point of sustainability within the client company

II. BIOPHARMACEUTICAL DEVELOPMENT LEADERSHIP AND MANAGEMENT

Aerovance, Inc., Berkeley, CA

2004- 2007

Senior Director and Head, Project Management

- **Executive-Level Strategic Planning and Leadership Experience:**
 - Founding team member for AEROVANCE, a venture-backed spin out from Bayer Healthcare
 - Created and managed aggressive yet risk - balanced biopharmaceutical development portfolio strategies that deliver to stakeholder and investor expectations
 - Authored strategic project plans that were adopted by Executive team to drive operations
 - Developed project and portfolio presentations for investors and stakeholders to add value and secure required financing as evidenced by garnering \$90M in B- and C-round investments
 - Built and presented new positioning concepts for early clinical candidate to KOLs, which added value and captured high level interest from the medical community
 - Developed processes for building and managing proprietary knowledge base
 - Created and managed effective development team processes to bring key assets through six clinical trials in 3.5 years
 - Created and managed team processes to bring two early assets into preclinical evaluation as development candidates, adding value to portfolio with no increase in headcount or impact on priority project timelines
- **Operational Planning and Leadership Experience:**
 - Obtained FDA approval of U.S. Orphan Drug Designation request for Cystic Fibrosis drug candidate, thereby enabling streamlined development strategy, potential 2-year extension of market exclusivity, and reduced development costs
 - Led effort for successful regulatory (CTA) submission to MHRA, enabling entry into clinical development for flagship project

- Co-architect of team-based organization; creation of cross-functional team processes designed for effective decision – making, efficient operations and transparent communications in an entrepreneurial environment.
- Created and led corporate-wide organizational development approach for identifying and cultivating leadership best practices in support of sustainable innovation. Effort resulted in company-wide adoption of inclusive and transparent decision-making, resource conflict resolution and balanced risk-taking processes.
- Created Regulatory Intelligence Summaries that capture more aggressive development strategies that build value, reduce costs and prevent unnecessary resource commitment.
- **Relationship Building Skills and Experience:**
 - Mentorship across corporate levels to develop sustainable leadership excellence
 - Established inclusive decision-making and management processes and venues
- **Education and Building Awareness:**
 - Developed and delivered presentations focusing on drug discovery and development for both professional and non-professional audiences, regional, national and international venues
 - Authorship of industry-wide guidance document
 - Recipient of UC Berkeley Haas School of Business Scholarship to attend 2007 BioExec Institute

Bayer Corporation, Biotechnology Unit, Berkeley, CA
Senior Project Manager III (Director Level)

1998-2004

- **Strategic Planning and Leadership Experience:**
 - Designed integrated investment-oriented dossiers for partnering and due diligence presentations to attract venture backing.
 - Developed and delivered presentations that captured interest in spin-out concept and formed the basis of subsequent \$ 30 M B-round venture backing
- **Operational Planning and Leadership Experience:**
 - Functional Head of Biotechnology Project Management for Bayer's Biotechnology Unit
 - Special assignment to Bayer Biological Products Business Unit to enhance regulatory compliance
 - Secured \$1M capital investment to build new facility for regulated documentation archiving and retrieval. Allowed consolidation of manufacturing record storage into one controlled and secure site.
 - Led efforts for successful submissions to FDA, enabling entry into clinical development
- **Relationship Building Skills and Experience**
 - Built and maintained motivation across teams in a regulated environment.
- **Education and Building Awareness, Skills and Experience:**
 - Created and delivered high level presentations to potential investors and executive teams
 - Invited speaker and chair, multiple symposia on Drug Discovery and Development
 - Featured in 2 national publications on Drug Development
 - Invited speaker, Women in Science Forum, Allegheny College, 2004

Project Manager II

1996-1998

- Responsible for influencing overall development of Global Strategy to meet therapeutic and market needs. Creation of event-based decision-making milestones, partnering opportunities and risk/benefit profiles. Created and delivered persuasive presentations to internal and external senior management. Leadership of cross functional teams.
- Coordinated successful IND submission to FDA to enable entry of Bayer's first internally-generated biotech drug candidate into clinical development
- Functioned as media spokesperson for Bayer's Biotechnology Project Management group.

Manager, Biotechnology Licensing and Acquisition (Principal Scientist Level)

1994-1996

- Collaboration to formulate partnership strategies in support of early research and development efforts. Drafted, negotiated and managed agreements.

III. DISCOVERY RESEARCH

Bayer Corporation, Institute for Molecular Biologicals, West Haven, CT **1988-1994**
Senior Staff Scientist

- Led discovery teams and developed syntheses of scientific, competitive, regulatory and technical information for Executive Team. Formed basis of strategic decision-making and priority setting

Frederick Cancer Research Facility, Frederick, MD **1983-1988**
Scientist Associate

- Discovery research in molecular oncology; research resulted in published abstracts and articles.

SUNY Stony Brook, Stony Brook, NY **1980-1983**
Postdoctoral Associate

- Research in the area of molecular evolution; research resulted in published abstracts and articles.

EDUCATION

| <u>DEGREE</u> | <u>INSTITUTION</u> | <u>SUBJECT</u> |
|--------------------------|-------------------------|--|
| Postdoctoral Fellowships | SUNY Stony Brook | Biochemistry, Cell and Developmental Biology |
| Ph.D. | Yale University | Biology |
| M.Phil. | Yale University | Biology |
| M.Sc. | Yale University | Biology |
| B.S. | Allegheny College | Biology, Minor in English |
| Diploma | Eastman School of Music | Piano |

AWARDS AND RECOGNITION

- **2007** Recipient of Deloitte/UC Berkeley Haas School of Business scholarship to BioExec Institute Series
- **2002** Distinguished Professional Award, Association for Women in Science, Northern California Chapters
- **2002** Bayer Quality Excellence Award
- **1997** Bayer Corporation President's Achievement Award Finalist
- **1997** Bayer Quality Excellence Award

REVIEW AND ADVISORY BOARD POSITIONS

- **2008-present** Editorial Advisory Board, ***Contract Pharma***
- **2008-present** Advisor and Coach, Astia
- **2002-present** Editorial Advisory Board, ***American Pharmaceutical Outsourcing***
- **2003** Grant reviewer for Canadian Red Cross
- **1985-present** Reviewer for numerous international scientific and trade journals

ADDENDA

SELECTED GENERAL PUBLICATIONS AND PRESENTATIONS

- 2 issued *patents*
- **Guest Lecturer, PERI: Project Management in the Pharmaceutical R and D Industry** 11/2008
- **Invited Workshop Co-chair**, IQPC 8th Annual CMO Conference, 2008
- **Invited Speaker**, IQPC conference on PMOs: Optimizing Strategic Objectives, Atlanta, GA, Dec 2006
- **Invited Panelist**, UC Berkeley, International Careers Symposium, October, 2006
- **Invited Speaker**, IIR Conference on Biopharmaceutical Production, July, 2005
- **Invited Keynote Speaker**, SIA-sponsored high school career day, April 2005
- **Invited chair and speaker**, IIR conference on Building Relationships with CMOs, Dallas, TX, April 2005
- **Invited chair and speaker**, IQPC conference on Biopharmaceutical Development, Philadelphia, PA, November 2004
- **Invited speaker**, Conference on Women In Science, Allegheny College, April 2004
- **Co-Chair**, SMi conference on Biopharmaceutical Development, London, March 2004
- **Co-chair**, CBI conference on Biopharmaceutical Outsourcing, Boston, MA, June 2003
- **Invited speaker** and **Workshop moderator**, Pacific Region Clinical Supply meeting, 2002
- **Invited lecturer** UC Berkeley Department of Virology
- **Featured speaker**, Association for Women in Science, East Bay Chapter, 2000
- **Recent/Feature Articles:**
 1. Brownell, E., et al. Chapter 3 in: ISPE GOOD PRACTICE GUIDE: BIOLOGICS FOR INVESTIGATIONAL PRODUCT PROFESSIONALS. 2007, in press.
 2. Brownell, E. 2002. Project management: Not just a tracking function any more! American Pharmaceutical Outsourcing 3 (3): 34-40.
 3. Brownell, E. 2001. Project management: Pivotal tool for successful outsourcing relationships. American Pharmaceutical Outsourcing 2 (1): 6-14.
 4. Studt, T. 2001. R & D Magazine 43 (3): 12-17. (Feature Cover Story)
 5. Studt, T. 2001. Drug Discovery and Development 4 (5): 28-32. (Cover Story)

SCIENTIFIC PUBLICATIONS

Treco, D., **E. Brownell**, and N. Arnheim. 1982. The ribosomal gene non-transcribed spacer. Cell Nucleus XIIC: 101-126.

Brownell, E. 1983. DNA/DNA hybridization studies of muroid rodents: symmetry and rates of evolution. Evol. 37: 1034-51.

Brownell, E., M. Krystal and N. Arnheim. 1983. Structure and evolution of human and African ape rDNA pseudogenes. Mol. Biol. Evol. 1:29-37.

Brownell, E., S.J. O'Brien, W.G. Nash, and N. Rice. 1985. Genetic characterization of human c-rel sequences. Mol. Cell. Biol. 5: 2826-2831.

Brownell, E., C.A. Kozak, J.R. Fowle III, W.S. Modi, N.R. Rice and S.J. O'Brien. 1986. Comparative genetic mapping of cellular rel sequences in man, mouse and the domestic cat. *Am. J. Hum. Gen.* 39:194-202.

Brownell, E., B. Mathieson, H.A. Young, J. Keller, J. Ihle, and N.R. Rice. 1987. Detection of c-rel-related transcripts in mouse hematopoietic tissues, fractionated lymphocyte populations, and cell lines. *Mol. Cell. Biol.* 7: 1304-1309.

Buchberg, A., H.G. Bedigian, B.A. Taylor, E. Brownell, J.N. Ihle, S. Nagata, N.A. Jenkins, and N. Copeland. 1988. Localization of EVI-2 to chromosome 11: Linkage to other proto-oncogene and growth factor loci using interspecific backcross mice. *Onc. Res.* 2:149-165.

Brownell, E., H.P. Fell, P. Tucker, A.H.M. Geurts van Kessel, A. Hegemaier, N.R. Rice. 1988. Regional localization of the human c-rel locus using translocation chromosome analysis. *Oncogene* 2:527-529.

Brownell, E. F.W. Ruscetti, R.G. Smith and N.R. Rice. 1988. Detection of rel-related RNA and protein in human lymphoid cells. *Oncogene* 3: 93-98.

Buchberg, A.M., **E. Brownell**, S. Nagata, N.A. Jenkins and N.G. Copeland. 1989. A comprehensive genetic map of murine chromosome 11 reveals extensive linkage conservation between mouse and human. *Genetics* 122: 153-161.

Brownell, E., N. Mittereder, and N.R. Rice. 1989. A human rel-proto-oncogene cDNA containing an Alu fragment as a potential coding exon. *Oncogene* 4: 935-942.

Fiorentino, L. , D. Austen, D. Pravtcheva, F. Ruddle, and **E. Brownell**. 1989. Assignment of the interleukin-2 locus to mouse chromosome 3. *Genomics* 5: 651-653.

Brownell, E. , A.S. Lee, S.K. Pekar, D. Pravtcheva, F. Ruddle, and R. M. Bayney. 1991. Glial fibrillary acid protein, an astrocyte specific marker, maps to human chromosome 17. *Genomics* 10: 1087-1089.

Brownell, E., G.E. Ranges, T. Sarr, L. Fiorentino, M. Godfrey, S. Pekar, J. Hart, M. Kamarck, P.M.M. Rae, F. Ruddle and R. M. Bayney. 1992. Chromosome assignments of the human TNF p55 and p75 receptor genes. *J. Exp. Zool.* 262 :340-342.

Yoo-Warren, H., A.G. Willse, J. Hull and **E. Brownell**. 1993. Cloning and chromosomal mapping of mouse seminal vesicle protein F. *J. Exp Zool.* 265: 653-658.

Delaria, K., L. Fiorentino, L. Wallace, P. Tamburini, **E. Brownell** and D. Muller. 1994. Purification and characterization of CTLA 2b: A novel cysteine protease inhibitor. *J. Biol. Chem.* 269:25172-25177.

Brownell, E., L. Fiorentino, G. Jolly, K. Wolfe, S. Kincaid, P. Seperack and D. Visco. 1995. Immunolocalization of stromelysin-related protein in murine mast cell granules. *Int. Arch. All. Imm.* 107: 333-335.

Lukacs, N. W., R. M. Strieter, P. M. Lincoln, **E. Brownell**, D. M. Pullen, H.J. Schock, S.W. Chensue, D. D. Taub, and S.L. Kunkel. 1996. Stem cell factor (c-kit ligand) influences eosinophil recruitment and histamine levels in allergic airway inflammation. *J. Immunol.* 156: 3945-3951.

Brownell, Elise, N. Lukacs, S.L. Kunkel and R.M. Strieter. Method for treating asthma using SCF antibody. United States Patent 5911988.

Abstract:

This invention provides pharmaceutical compositions comprising anti-SCF antibodies for the reduction of eosinophils in the lungs of mammals. This invention also provides for methods of treating asthma and generating a murine model for asthma.