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# Aspects of Leadership in Biotechnology Careers

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CWSEM

# Key Factors for a Successful Biotech Company

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- Technology
- Management team
- Scientific/Medical advisors
- Board of Directors
- Investors
- Dedicated and enthusiastic employees

# Key Factors for a Successful Biotech Company

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- Business strategy is driven by
  - Strength of technology
  - Medical need
  - Market size and accessibility
  - Financial environment
  - Investor confidence
  - Exit strategy

# Key Factors for a Successful Biotech Leader

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- Passion
- Resilience
- Flexibility in approaches
- Experience
  - Science
  - Development
  - Medical
  - Commercial
  - Investor relations
- Extensive network

# Background

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- Ph.D. in Biochemistry; University of Illinois
  - Regulation of cholesterol synthesis
  - First to clone a gene at UI
- Postdoctoral fellow; Harvard University in Wally Gilbert's lab (founder of Biogen)
  - Molecular Biology
- Biogen (now Biogen Idec)
  - Molecular Biology; Cell Biology; Immunology; inflammation, autoimmune diseases
- ImmuLogic Pharmaceutical, Inc.
  - Allergy and autoimmune diseases
- Point Therapeutics, Inc.
  - Hematology and oncology; Business Development; financing and investor relations
- BioTransplant, Inc
  - Organ and bone marrow transplantation; Investor relations
- ZIOPHARM Oncology, Inc.
  - Oncology, Business Development
- Chymic Therapeutics, Inc
  - Oncology

# Biogen

How development and clinical trial processes can influence outcome of project – and how being passionate and flexible can save a project

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- Identified and cloned several genes involved in diseases
  - Therapeutic targets
  - Proteins as agonist or antagonists
- Initiated T cell activation project
  - To identify factors involved in autoimmune diseases
  - Inhibit ongoing T cell activation in AI by blocking CD2/LFA3 interactions
  - Cloned and expressed LFA-3
  - Soluble LFA-3 had low CD2 binding affinity
  - Minimal effect on T cell activation
  - Management suggested to terminate the project

# Biogen

How development and clinical trial processes can influence outcome of project – and how being passionate and flexible can save a project

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- LFA-3/IgG fusion protein Amevive®
  - dimer with strong inhibition of T cell activation
- Needed to re-establish excitement in management and team members for the project
- Initial preferred target RA
  - Lengthy clinical trial
  - High placebo effect
- Psoriasis as second choice
  - Objective endpoints
  - Faster path to market approval
- Amevive® received market approval
  - Now marketed by Astellas Pharma

# Point Therapeutics

## How a market event can re-direct your company

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- Founded October 1996
- Technology licensed from Tufts University
  - Small molecule DPP IV inhibitor
    - Preclinical data indicated anti-inflammatory
    - Some data for hematopoietic stimulation
- Raised small amount of money paid CRO for additional assays – potent hematopoietic stimulation
- Raised \$ 1.5 MM from friends, families and private investors within 4 months
- Expanded research on hematopoietic stimulation
- Raised \$ 5MM from private investors and small VC in 6 months
- Obtained \$ 80MM deal with a big Pharma within 1 year based on preclinical data on hematopoietic stimulation
- Phase I clinical trial for hematopoietic stimulation
- Amgen obtained market approval for PEG-GCSF
- Lost interest from investors, partners, PI for clinical trials



# Point Therapeutics

How a market event can re-direct your company

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- Demonstrated potent anti-tumor activity for compound
  - Tumor basal membrane is similar to bone marrow stroma in terms of growth factors etc.
- Took company public through reverse merger
- Developed compound through Phase III clinical trials
- Acquired by Dara Biosciences

# Chymic Therapeutics

How the economic environment can re-direct a start-up company

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- Technology platform for design and synthesis of small molecules to treat cancer, autoimmune and infectious diseases (licensed from MIT)
- Two lead compounds in oncology
- First round of financing
  - Started with VCs
  - Unfavorable economic environment
- Changed approach
  - Private investors
  - Academic associations
    - Recruited by University of Rhode Island, State of Rhode Island
  - Option agreement with large Biotech

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