



***“Developing Your Technology to the Point of Interest: Pros and Cons of Starting Your Own Biotech in Neurodegenerative Disease”***

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***Drug Discovery, Development & Delivery for  
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February 6, 2007***

# Pros and Cons of starting your own Biotech company

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- **Pro**

- You don't work for anyone else

- **Con**

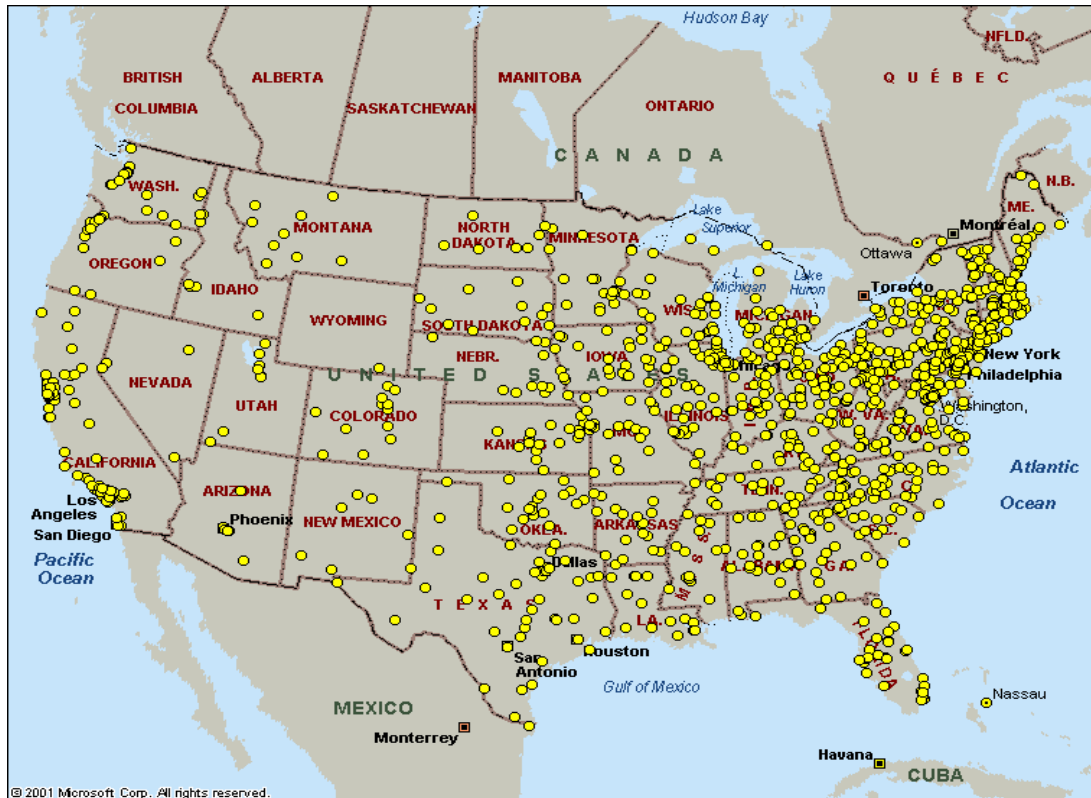
- Nobody pays you!!

# Outline

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- High Rate of Innovation in US and Rest of Industrialized World
- Commercial viability of innovation
  - Technical
  - Commercial / Business
  - Intellectual Property
    - **Key Timelines**
    - **Loss of global coverage diminishes value**
- Pharmaceutical development
  - Pharma economics
  - Disproportionate cost of early-stage drug development
- The typical “Minimal Point of Interest”
- Pro’s and Con’s of starting your Biotech company
- The Licensing alternative

# High Rate of Innovation in the US



Source: AUTM Survey

# US Leadership in Innovation

Share of Papers	%	Share of Citations	%	Relative Citations	
USA	35	USA	49	USA	1.4
UK	8	UK	9	Switzerland	1.4
Japan	7	Germany	6	Sweden	1.2
Germany	7	Japan	4	Denmark	1.2
France	5	France	4	UK	1.1
Canada	4	Canada	4	Netherlands	1.1
Italy	3	Italy	2	Canada	1.0

Source: "The Scientific Wealth of Nations", Robert May, AAAS, 1997

# Time-Line for Some Key Events in Patent Prosecution

**\$** First Patent Filing (National or PCT)

12 Months

**\$\$** Subsequent Filing (PCT, Regional or National)

18 Months

**\$\$\$\$\$\$** National Phase PCT Filings

# Commercial viability of innovation

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## Technical

- What problem does the technology address; are there limits to its success?
- What are the characteristics of the invention, how seminal or fundamental?
- What is the pace of invention in the field, technical obsolescence?
- Who are other the competitors, where are they and what resources do they have?
- What is the stage of the invention's development?
- What resources will be required to develop technology?
- What other patents are there in field?

# Commercial viability of innovation

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## Intellectual Property

- What is the invention's competitive position in the patent landscape?
- Does the patent stand alone, or is it a part of group of patents
- What other patents are there in field (freedom to operate)
- ***Geographic coverage***
  - Timing
  - Cost

# What is the typical “Minimal Point of Interest”

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## **Technical**

- In vivo proof-of-concept in animal model of disease
- Pre-clinical development is a big plus
  - ADME and Tox/Path

## **Commercial / Business**

- Must address unmet market need
- Can be small market for specialty pharma company

## **Intellectual Property**

- Strong & broad IP protection
  - PCT National Phase Potential

# Pro's and Con's of starting your own biotech company

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## Pros

- Initial autonomy of following your dream
- Financial rewards can be enormous
- Provides a mechanism for attracting financial support
- Incubator may be available for earliest stages of company

## Cons

- VC funding can be difficult to obtain and often leads to loss of control
- Investors typically expect full-time commitment
- Probability of success is low & financial reward is “all-or-nothing”
- Failure can lead to personal financial stress

**CAVEAT:** Philanthropic venture funding can be a friendlier alternative

# Licensing offers a Potential Alternative Way to Incubate Your Technology

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## Pro's

- Retain benefits of university employment
- Immediate financial reward from up-front and milestone payments
- Immediate funding for patent prosecution
- Possibility of consulting fees for inventor
- Possibility of sponsored research for inventor and university
- Possibility of large upside from royalty on sales if successful

## Con's

- Not easy to find before National Phase filing deadline
- Loss of control and lower financial reward



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