

The Future of University Technology Transfer: Where Do We Go From Here?



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That was then . . .

- Licensing Office received invention disclosure from faculty members
- A patent application may have been filed, but probably not
- Non-confidential description was mailed to list of companies
- Sat back and hoped the phone rang

... This is now

- Move from passive to active portfolio management
- Focus on creation of value
- New business development paradigm

Why? What happened?

- In a word - **EXPECTATIONS**
 - Bayh-Dole: improving the impact of research
 - Enhance the profile of the university
 - Faculty recruitment and retention
 - Economic development for community
 - Additional source of revenues

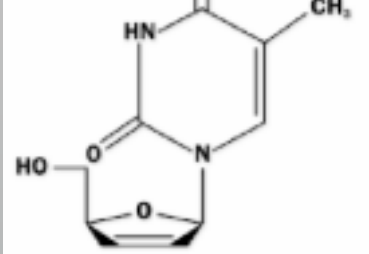
The AUTM Survey Says . . .

- Over 4,000 new license agreements executed with nearly 23,000 currently active.
- Nearly 360 new commercial products brought to market with more than 1,500 new products introduced since 1998
- 494 new companies formed based on a license from an academic institution with over 3,800 such ventures created since 1980.
- Approximately \$30 billion of economic activity each year attributed to the commercialization of new technologies from academic institutions.

Source: Association of University Technology Managers (AUTM)

Life Saving Therapies

- Cisplatin and carboplatin cancer therapeutics: Michigan State University
- Haemophilus B conjugate vaccine: University of Rochester
- Antiretroviral drugs for the treatment of HIV/AIDS:
 - Abacavir: University of Minnesota
 - Lamivudine: Emory University
 - Enfuvirtide: Duke University
 - Stavudine: Yale University



d4T - Stavudine



- d4T first synthesized in 1960s by Jerome Horwitz at the Detroit Cancer Center, but had limited anticancer activity
- In mid-1980s, Tai-Shun Lin and Bill Prusoff found it very active against HIV
- Licensed to Bristol-Myers Squibb in 1988
- First drug tested under the FDA's parallel track policy and approved in 1994 as Zerit
- By 2000, Zerit was the most widely prescribed component of the AIDS combination therapy with over 90,000 prescriptions written



GENAISSANCE
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ION
RMACEUTICALS, INC

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Corporation

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Yale Main Campus

300 George Street

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Exit 1

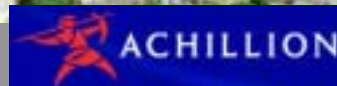
Yale Medical School



MOLECULARSTAGING
Technology transforming bioscience.



Rib-X
PHARMACEUTIC



Continuing to Grow



- **March 10 - SOPHERION THERAPEUTICS Raises \$26 Million in Series A Funding**
- **May 1 - RIB-X PHARMACEUTICALS Completes \$63.5 Million Series B Financing**
- **September 9 - VION Secures \$11.3 Million Private Placement**
- **September 12 - ALEXION Pharmaceuticals Raises \$44 Million in Sale of Common Stock**
- **September 18 - CURAGEN/454 LIFE SCIENCES Secures \$20 Million**
- **October 30 - Genaissance Pharmaceuticals Secures \$11.1 Million**
- **TOTAL: \$176 Million**

Where are we going?

- Managing an increasingly complex world
- Acting as the bridge between the for-profit and not-for-profit worlds
 - Maintaining the integrity of the university
 - Faculty conflicts of commitment
 - Teaching/Research/Service
 - versus
 - Outside activities