

Technology Disclosure in the Research Commercialization Process

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Mission of the Technology Transfer Office

To lead the successful commercialization of ideas created by people at Case Western Reserve University through licensing and the start-up of new companies.

Goals

- *More Case technologies to market*
- *Proactive emphasis on regional economic development*
- *Encouragement of university spinoff companies*
- *Overall financial results for the university*
- *Strategy for development, industry-sponsored research, and talent recruitment/retention*

Operating Philosophy

- *Focus on innovation*
- *Take targeted approach*
- *Operate as a business*
- *Be actively involved*

The Process

Receive/Solicit Ideas from Case People – “Invention Disclosures”



Phase 1 - Evaluation



Technical Merit

Commercial Merit
(Pre-Marketing)

Intellectual Property
Protection



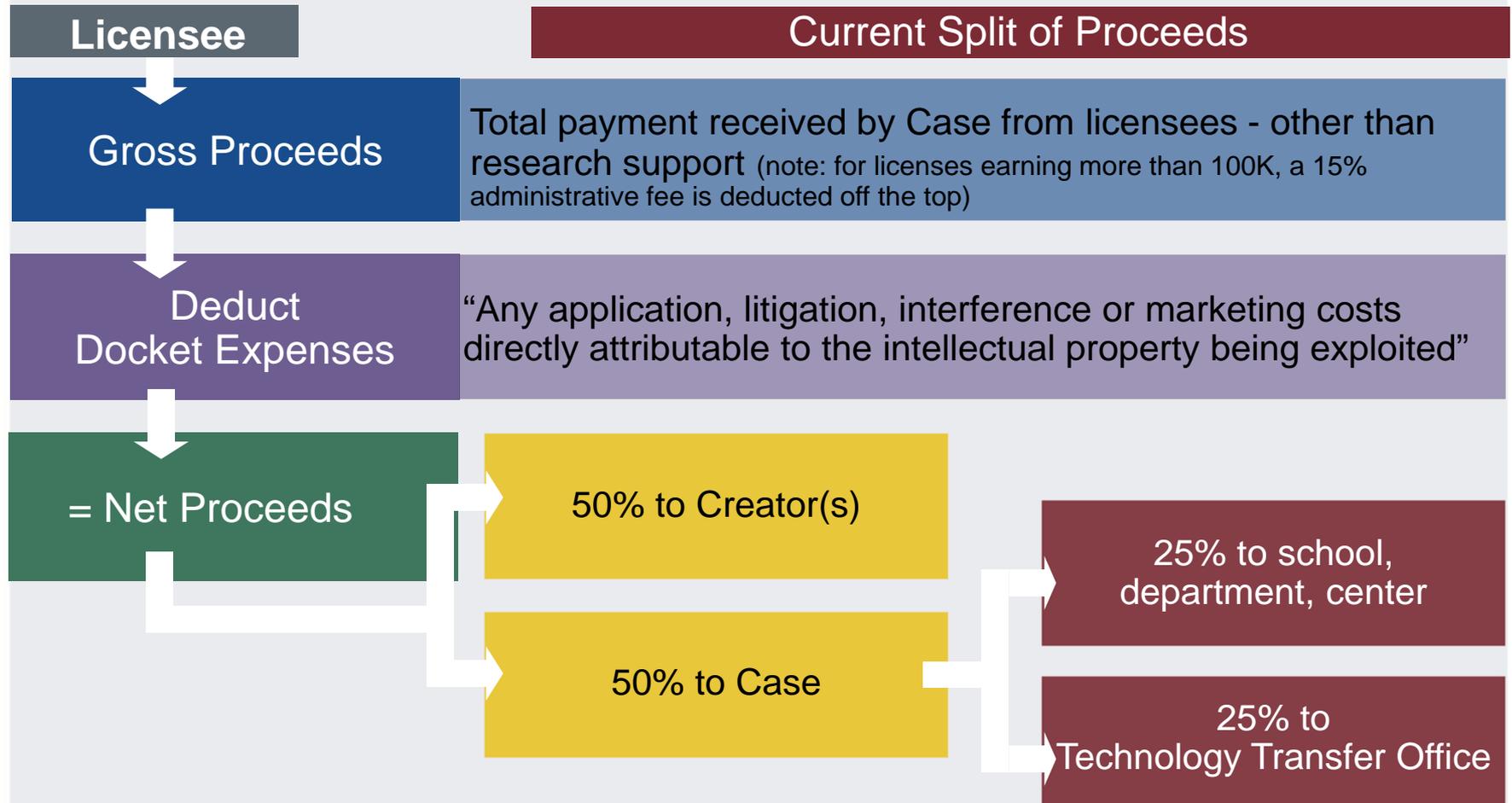
Phase 2 - Commercialization

Additional R&D

Sell Licenses

Obtain IP Protection

Intellectual Property Owned by Case



Invention Disclosure Form

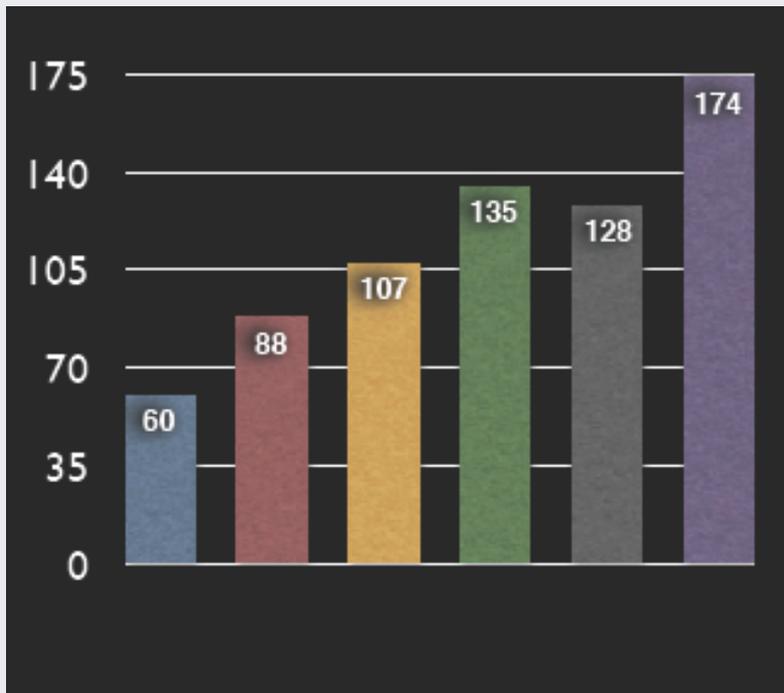
- *First step in review of patentability and commercial viability*
- *Description of technology*
- *Principle researchers*

Time and Perseverance

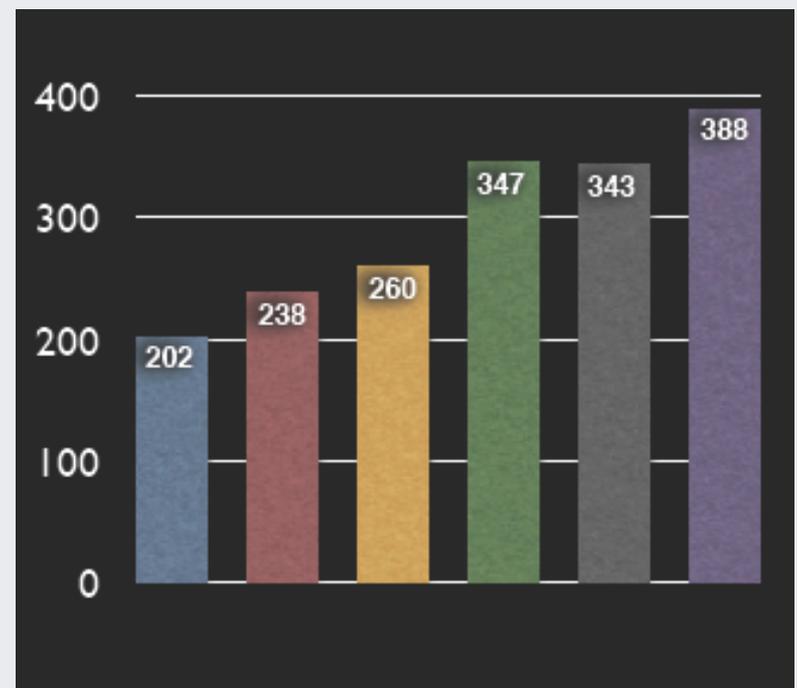
Successful inventions take 4-8 years to reach fruition.

World-Class Results

Invention Disclosures

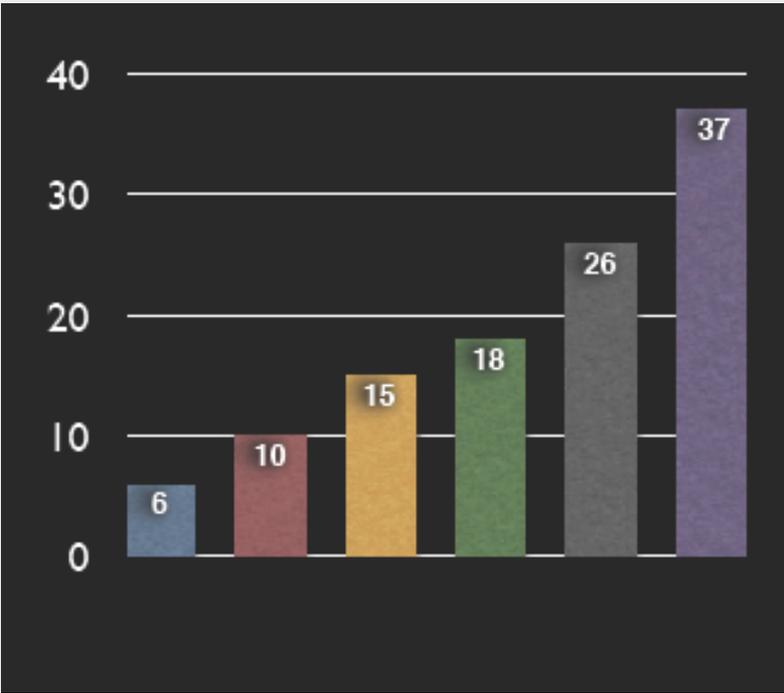


MTAs and NDAs

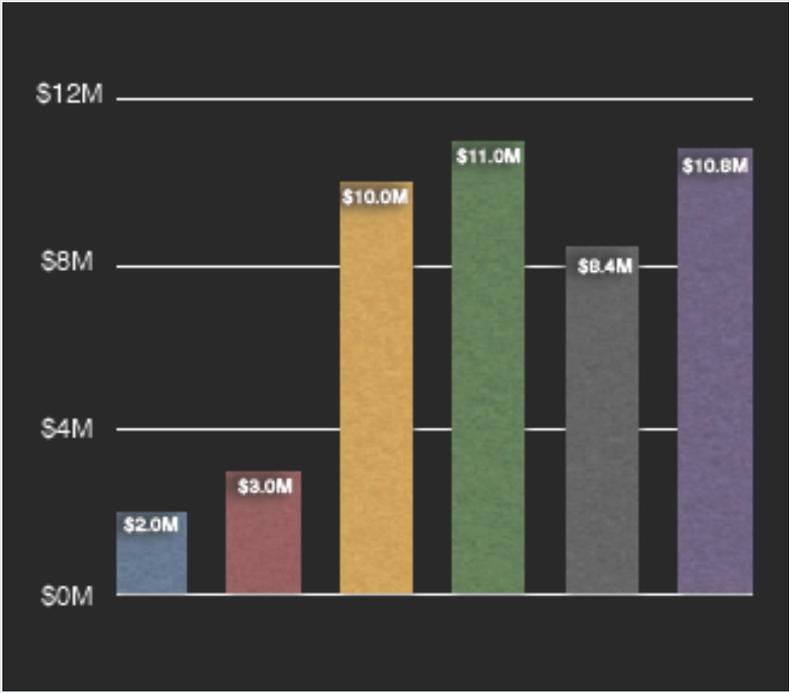


World-Class Results

Transactions

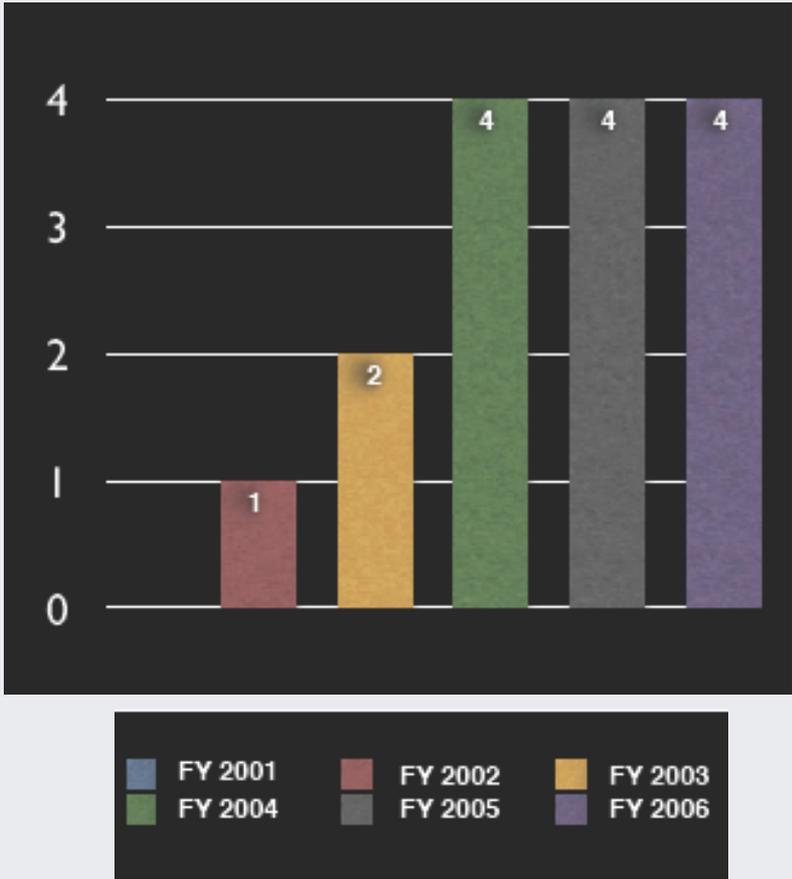


Revenue

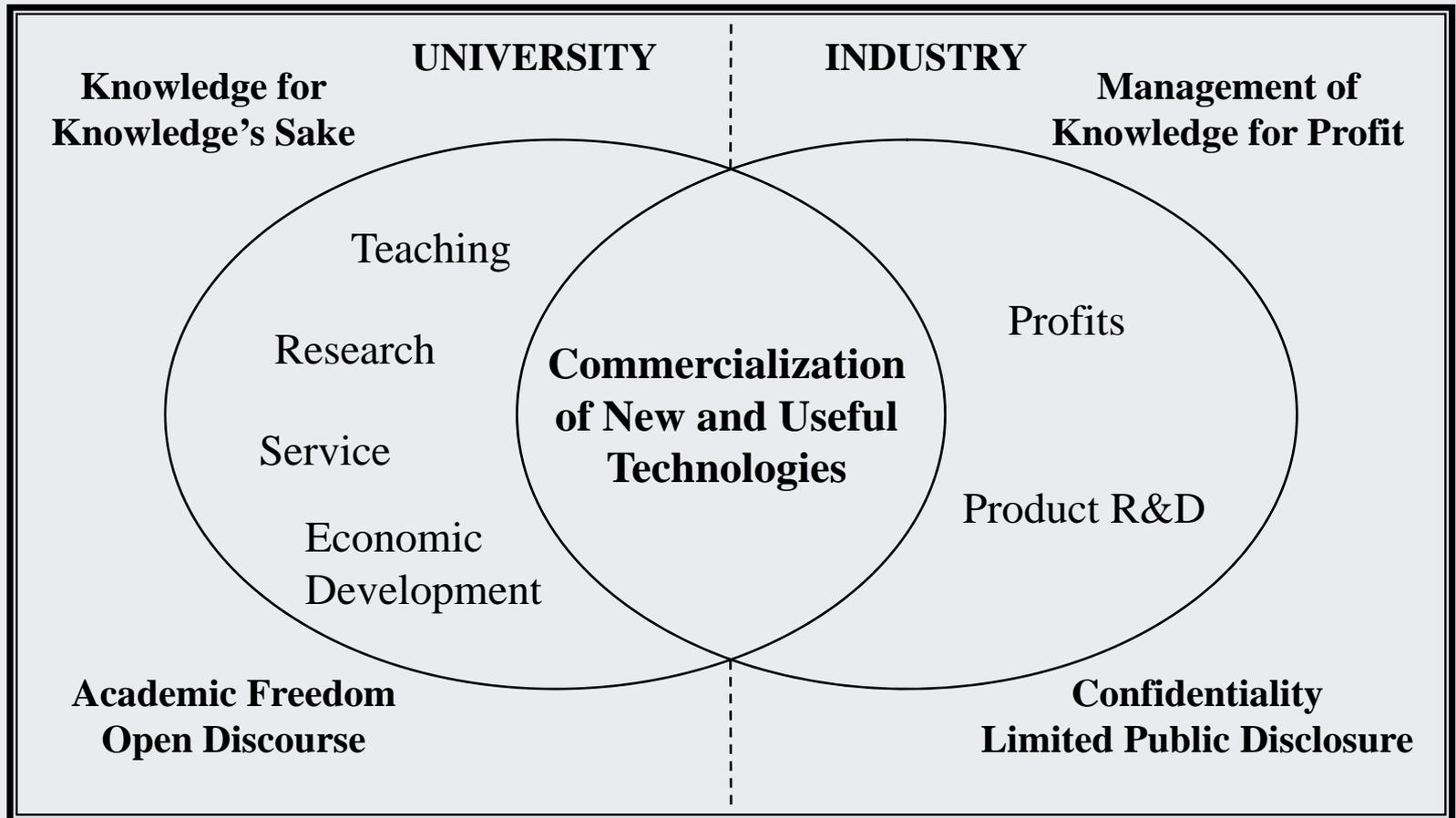


World-Class Results

Start-Up Companies



Conflicting Values, Common Interest



Marketing to Industry

CASE WESTERN RESERVE UNIVERSITY EST. 1826

Molecular therapeutics targeting Eph A kinases to suppress tumor cells

ephrin Eph kinase

tumor suppressive properties of Eph kinases

Cancer Therapy

Targeting EphA Kinases by Small Compounds for Cancer Therapy

Cancer is the second leading cause of death in North America and it is estimated by the American Cancer Society that 1.4 million new cases of cancer will be diagnosed in 2007, of which nearly 40% will result in death. This represents a tremendous burden to the individuals and families affected. Despite decades of intense research, a cure for most cancers is still not available. Recently, mechanism-based molecular therapy has emerged as increasingly attractive approach for cancer therapy.

Eph (EphA and EphB) kinases constitute the largest subfamily of receptor protein tyrosine kinases, with 16 distinct members. EphA and EphB kinases bind to glycosylphosphatidylinositol anchored EphrinA and transmembrane EphrinB, respectively. There is a growing body of evidence that shows the overexpression of EphA in cancers, including prostate, breast, colorectal, skin and lung cancers. These studies have established that

Eph kinases play an important role in tumor growth and metastasis. Consequently, there is a tremendous interest in the development of cancer therapies targeting Eph kinases and/or their interactions with the Ephrins, which forms the underlying basis of this invention.

Investigators at Case Western Reserve

University recently have illustrated that EphA kinases possess anti-tumorigenic properties in vitro and in vivo and that activation of EphA kinases can inhibit cancer growth, migration, and/or proliferation in prostate, breast, colorectal, skin, and lung cancers. In preclinical studies, the investigators have demonstrated that a small peptide as well as small molecules can function as EphA kinase agonists. They can activate EphA kinases by stimulating tyrosine phosphorylation and signaling of EphA kinases. Moreover, a crystallography study also reveals a unique binding site on the EphA molecule. The structural information

Activation of EphA kinases can inhibit:

GROWTH
MIGRATION
PROLIFERATION

in prostate, breast, colorectal, skin and lung cancer

provides a powerful tool for screening, designing, optimizing, evaluating, and identifying compounds which have the affinities to Eph molecules. Such compounds can be used to modulate tumor cell behaviors.

The identification of tumor suppressive properties of Eph kinases and therapeutics in this invention may provide a more selective and a mechanism-based approach for cancer therapy. Work is ongoing to develop more molecular therapeutics targeting Eph kinase pathway in preclinical and clinical models for a broad range of indications.

Commercialization Opportunity:

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Technology Transfer Office

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Intellectual Property Protection:
PCT Application No. US/05/27689

Research ShowCASE

- *Free 2-day public exhibit*
- *6th year*
- *Hundreds of scientists and scholars*
- *Collaboration, creativity, innovation*

Learn More About Tech Transfer at Case

To learn more about the Technology Transfer Office at Case Western Reserve University, please visit our Web site at:

<http://techtransfer.case.edu>

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