RUTGERS
Office of Research
Commercialization

ORC and its Internship Program

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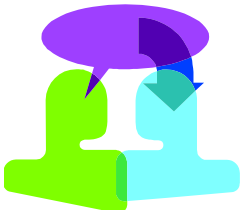
Office of Research Commercialization

- **ORC is a part of the Office of Research and Economic Development (ORED)**
- **We protect and commercialize Rutgers invention**
- **RU is #37 worldwide in US patents allowed in 2017**
- **Licensing revenue of $29.4 MM in FY 2017**





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Bayh-Dole Act

"The most inspired piece of US legislation in the last 50 years" The Economist

- Patent and Trademark Law Amendments Act
- Bayh-Dole Act was implemented by Congress on December 12,1980
- Permits universities and other non profits that receive federal funding for research to retain rights to their inventions in exchange for certain obligations

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What is a Patent

- A patent is the right to exclude others from making, using, selling, offering for sale, or importing the patented invention
- Patents are valid only in the country that granted it
- Patents can be: Utility, Design or Plant
- Utility and Plant Patent Term: 20 years from date of filing
- Patents are limited to what is specified in the patent's claims

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Patent Example


US009017935B2

(12) **United States Patent**
Dougherty et al.

(10) **Patent No.: US 9,017,935 B2**
(45) **Date of Patent: Apr. 28, 2015**

(54) **HIV-1 LATENCY MODEL FOR HIGH THROUGHPUT SCREENING**

(75) Inventors: **Joseph P. Dougherty**, Milford, NJ (US); **Sofiya Micheva-Viteva**, Los Alamos, NM (US); **Stuart W. Peltz**, Piscataway, NJ (US); **Yacov Ron**, Califon, NJ (US); **Annmarie Pacchia**, Buffalo, NY (US)

(73) Assignee: **University of Medicine and Dentistry of New Jersey**, New Brunswick, NJ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 251 days.

(21) Appl. No.: **13/551,257**

(22) Filed: **Jul. 17, 2012**

(65) **Prior Publication Data**

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(2013.01); ***C12N 15/86*** (2013.01); *C12N 2740/16043* (2013.01); *C12N 2740/16122* (2013.01); ***C12Q 1/6897*** (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

(56) **References Cited**

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Pearson, et al. Epigenetic Silencing of Human Immunodeficiency Virus (HIV) Transcription by Formation of Restrictive Chromatin Structures at the Viral Long Terminal Repeat Drives the Progressive Entry of HIV into Latency. J. Virol. 2008; 82(24): 12291-12303.*

(Continued)

Related U.S. Application Data

(62) Division of application No. 12/096,245, filed as application No. PCT/US2006/045483 on Nov. 27, 2006, now Pat. No. 8,247,167.

(60) Provisional application No. 60/742,241, filed on Dec. 5, 2005.

(51) **Int. Cl.**

A61K 39/12	(2006.01)
A61K 39/21	(2006.01)
C12Q 1/70	(2006.01)
C07K 14/005	(2006.01)
C12N 15/86	(2006.01)
C12Q 1/68	(2006.01)

(52) **U.S. Cl.**
CPC ***C12Q 1/703*** (2013.01); ***C07K 14/005***

Primary Examiner — Zachariah Lucas
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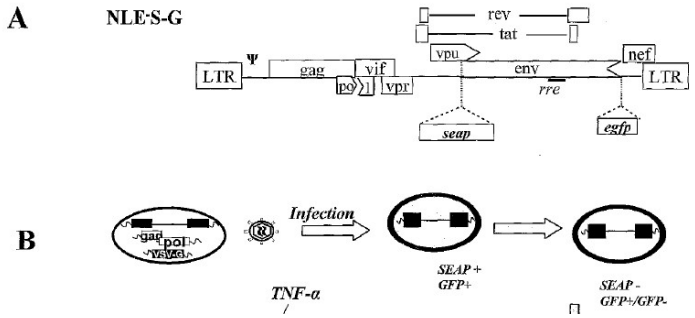
(74) *Attorney, Agent, or Firm* — Hoffmann & Baron, LLP

(57) **ABSTRACT**

Isolated, latently infected T cell lines are provided that can be utilized in high throughput screening to discover compounds capable of activating HIV-I. The T cell lines harbor a latent HIV-I derived vector pro virus, which upon activation expresses a marker for late viral gene expression due to the insertion of the marker gene in the position of HIV-I envelope.

10 Claims, 8 Drawing Sheets



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Patent Example

What is claimed is:

1. An isolated, latently infected T cell line harboring a latent HIV-I derived vector pro virus, which upon activation of the pro virus expresses a secretable marker for late viral gene expression, the gene for said marker being inserted in the position of HIV-I envelope.

2. The cell line of claim **1**, wherein the marker is a secretable enzyme.

3. The cell line of claim **2**, wherein the secretable enzyme is alkaline phosphatase.

4. The cell line of claim **3**, wherein the secreted alkaline phosphatase is capable of being detected using chemiluminescence.

5. The cell line of claim **1**, wherein the pro virus further includes a gene marker for viral early gene expression at the single cell level.

6. The cell line of claim **5**, wherein the expressed marker for viral early gene expression is a fluorescent protein.

7. The cell line of claim **6**, wherein the expressed marker for viral early gene expression is enhanced green fluorescent protein (egfp).

8. The cell line of claim **1**, wherein the provirus is capable of being activated by stimuli selected from the group consisting of tumor necrosis factor (TNF)-α, phorbol 12-myristate 13-acetate (PMA), valporic acid and combinations thereof.

9. The cell line of claim **1**, wherein the provirus contains an intact HIV-I gag gene, thereby allowing the use of Gag expression as a further marker of viral gene expression.

10. The cell line of claim **1**, wherein the latent provirus in the cell line is replication-incompetent.

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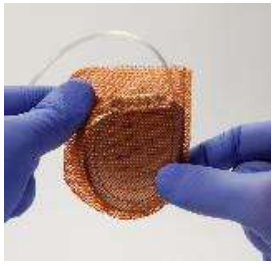
Rutgers Innovations in the Marketplace

Axion – 100 % recycled plastic railroad ties

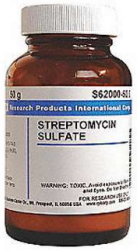


Medtronic – absorbable antibacterial envelope for implantable devices

Estee Lauder - Moringa anti-inflammatory, anti-aging skin cream

Scientific Learning – Fast ForWord® reading intervention software

Cepheid - GeneXpert® Point of care molecular diagnostic



Streptomycin – Nobel Prize-winning antibiotic

REVA - Fantom® sirolimus eluting bioresorbable scaffold

BioMarin - Brineura™ only known treatment for Batten Disease

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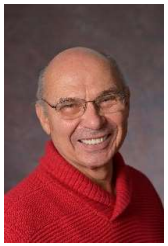

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Careers in Technology Transfer

Academic Technology Transfer

- Attend AUTM/LES meetings as a student
- Find an internship program or volunteer at a local TTO
- Take courses in IP and Licensing

Business Development in Industry

- Attend AUTM/LES meetings as a student
- Work within the company in another capacity
- Begin your career in a start-up company to gain various experiences or an academic TTO

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- **ORC Internship Program started in 2009**

- **Rutgers graduate students and postdocs interested in pursuing alternative careers in Intellectual Property Law, Business Development, and/or Academic Technology Transfer are invited to apply to the internship program.**

- **You will learn:**

✓ **the necessary steps to protect invention**

✓ **how to evaluate and commercialize invention**

✓ **the business terms of various agreements**