FCTDI

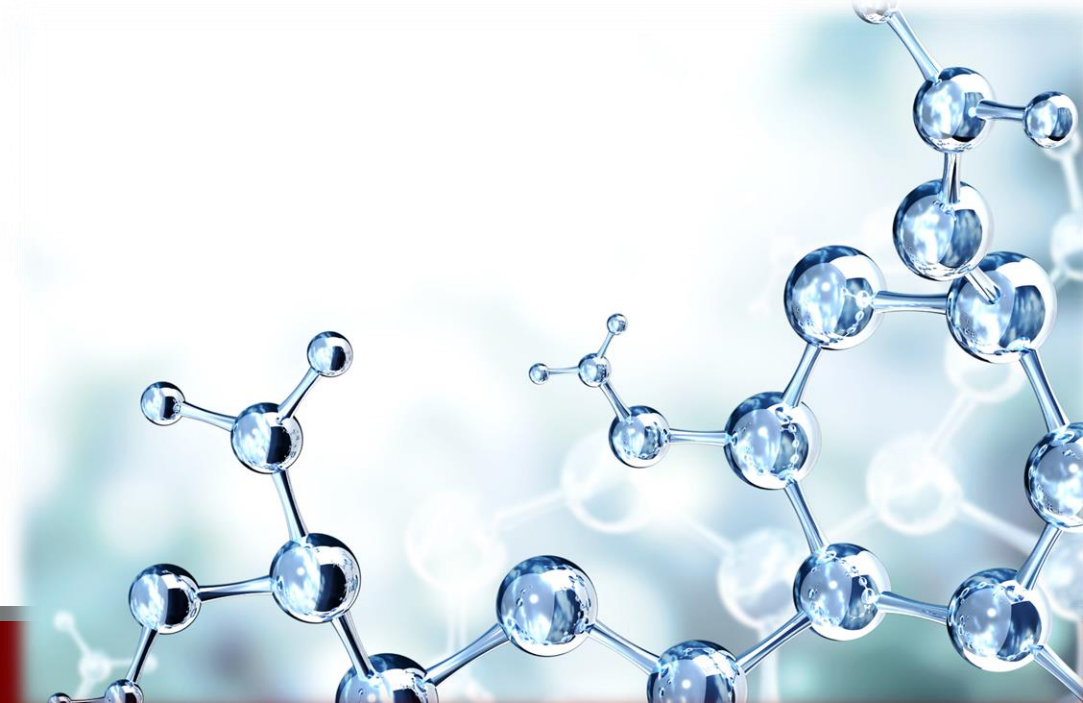
FCTDI General Description

February, 2025

3805 Old Easton Rd.

Doylestown, PA 18902

www.fctdi.com

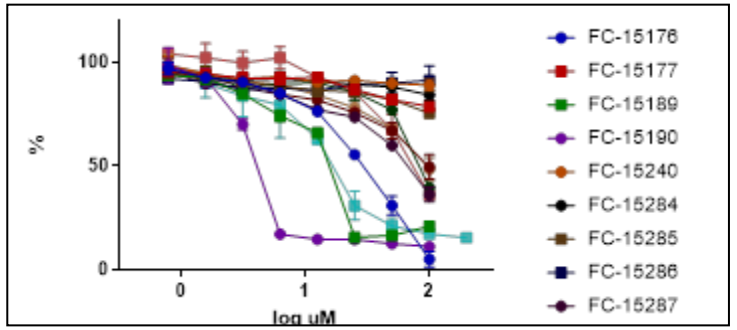


Drug Discovery Innovation via Iteration

Onsite: ~36,500 reagents and starting materials
Artificial Intelligence, Machine Learning)
Competitive landscape and IP analysis

Researchers working together
FC has prepared >17,500 registered NCEs

Primary biochemical assay(s)
Cytotoxicity testing (therapeutic index)
Cloning and expression of relevant proteins



Secondary functional assay(s) in cells
Use of patient-derived stem cells as needed

- IND Enabling studies, multiple species
- Identification and collaboration with suitable development partners
- Clinical trials, NDA, commercialization, treatment of disease

Patent applications and prosecution support

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

(10) **Patent No.: US 10,639,298 B2**
(45) **Date of Patent: May 5, 2020**

(54) **PRODRUGS OF RILUZOLE AND THEIR METHOD OF USE**

(71) Applicant: **Biohaven Pharmaceutical Holding Company Ltd.**, New Haven, CT (US)

(72) Inventors: **Jay Edward Wrobel**, Lawrenceville, NJ (US); **Allen B. Reitz**, Lansdale, PA (US); **Jeffery Claude Pelletier**, Lafayette Hill, PA (US); **Garry Robert Smith**, Royersford, PA (US); **Haiyan Bian**, Princeton, NJ (US)

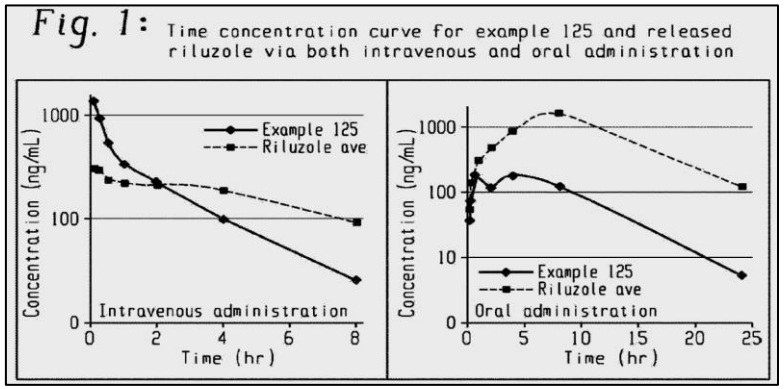
(2013.01); *A61K 38/05* (2013.01); *A61K 45/06* (2013.01); *C07D 277/82* (2013.01); *C07D 417/12* (2013.01); *C07K 5/06026* (2013.01); *A61K 2300/00* (2013.01)

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

(56) **References Cited**
U.S. PATENT DOCUMENTS

Patent containing troriluzole for which an NDA has been filed

ADME testing: hERG, Cyps, plasma protein binding, Ames, metabolic stability (m,r,d,nhp,h)
Pharmacokinetics testing (m,r,d,nhp if needed)



History

Founded in 2008 and received a Small Business Innovation Research (SBIR) grant in 2009 awarded in collaboration with a researcher at the Fox Chase Cancer Center, but is not affiliated with the Fox Chase Cancer Center in any way

Originally named Fox Chase Chemical Diversity Center, Inc. (FCCDC) as the early focus was on medicinal chemistry

Renamed **Fox Chase Therapeutics Discovery, Inc. (FCTDI)** to highlight the addition of pharmacology and biochemistry and to emphasize the overall goal of discovering new small-molecule therapeutics to treat human disease

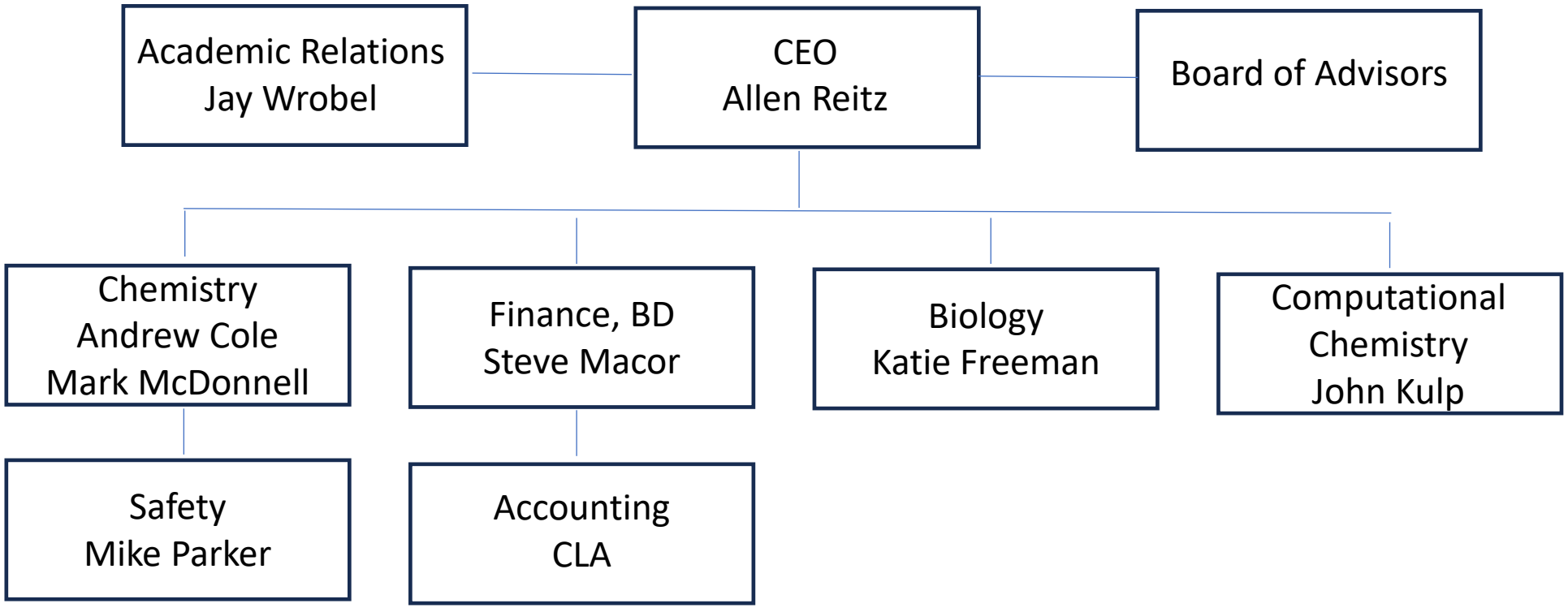
Have received >40 Phase I and 12 Phase II SBIRs/STTRs, Department of Defense grants, support from three private foundations, investment support, and sponsored research funding

Total of >$45M in non-dilutive federal research funding

Prepared >17,500 New Chemical Entities (NCEs)

Three compounds have advanced into human clinical trials together with collaboration partners

Organizational Chart

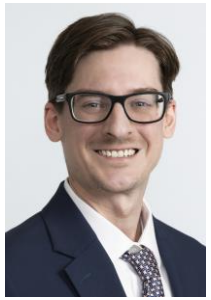


Creation of new proposals involves multiple rounds of review on chemistry, intellectual property, biology and safety

Leadership Team

Allen B. Reitz, Ph.D.
Chief Executive Officer and Founder
- Ph.D., UC San Diego; Executive Master's, Wharton, U. Penn.
- Johnson & Johnson for 26 yrs; FCTDI for 16 yrs
- 9 Clinical compounds including troriluzole and mazapertine
- >180 Publications, 83 issued U.S. patents

Andrew G. Cole, Ph.D.
Vice President, Medicinal Chemistry
- Ph.D., Chemistry, University of St. Andrews
- >25 Years of industrial Med. Chem. experience
- 7 drug candidates advanced into human clinical trials
- 48 publications, >50 issued patents and patent applications



Stephen Macor, B.S.
Vice President, Finance
- B.S., Accounting, Gwynedd Mercy University
- Accounting experience with annual gross revenue $500M+
- Specializes in financial analysis, planning, and reporting
- Business Development and Grants Administration

Jay E. Wrobel, Ph.D.
Vice President, Academic Relations
- 9 Development track candidates
- >40 Yrs of pharmaceutical industry experience
- PI or Key Personnel on 17 SBIR/STTR funded grants
- 79 Publications, inventor on 84 issued patents

Mark E. McDonnell, Ph.D.
Director of Chemistry
- >30 Ys in Medicinal Chemistry
- Managed multiple collaborations
- Principal Investigator on NIH grants
- >50 Issued patents and publications

Katie B. Freeman, Ph.D.
Director of Biology
- Ph.D. in Microbiology, Univ. Virginia
- >25 Years in Pharma and Biotech
- Assay development, mechanism of action
- >25 Publications, 7 issued U.S. patents.

John L. Kulp, Ph.D.
Director of Computational Chemistry
- Artificial Intelligence and Machine Learning
- Computational methods (Schrodinger software)
- Computational fragment-based drug design
- Protein structure determination (AlphaFold)

Board of Advisors

Kathy Czupich, MBA,

Nick Meanwell, Ph.D.

Patrick Lam, Ph.D.

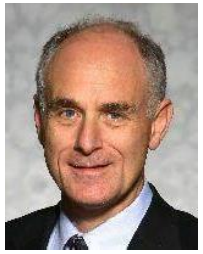
Rick Scott, Ph.D.

Jeff Pelletier, Ph.D.

Scott Rawls, Ph.D.

Melisa Egbertson, Ph.D.

Matthew Todd, Ph.D.





Ms. Czupich has >25 years experience in Business Development. She was the founding CFO of FCTDI in 2008 and has a BS, Penn State and an MBA, Accounting from Lehigh Univ.

Dr. Meanwell was a VP at BMS where he advanced >30 clinical candidates including treatments for HIV-1, hepatitis C virus (HCV) and respiratory syncytial virus (RSV).

Dr. Lam has >30 years of experience in innovation in structure-based drug design. He is responsible for the discovery of a total of eight clinical candidates including Eliquis®.

Dr. Scott was formerly VP, Research at FCTDI. He has a strong background in preclinical research and development as a pharmacologist especially in the area of infectious disease.

Dr. Pelletier was formerly Director of Chemistry at FCTDI. Dr. Pelletier has led large project teams in the transition of multiple inventions from discovery to development.

Prof. Rawls of Temple University has 28 years of demonstrated accomplishment as a pharmacologist and nesuroscientist including investigations involving troriluzole.

Dr. Egbertson has had a 25-year career in Medicinal Chemistry at the Merck West Point site. She is one of four inventors of the drug Aggrastat® (tirofiban).

Dr. Todd was previously Director of Lead Discovery at Johnson & Johnson for >10 years. He is expert in all aspects of biological assay development and compound library screening.

Experience

Partial list of therapeutic areas and target classes studied

- Oncology, Diabetes and Obesity, Inflammation and Immunology
- Anti-infectives (antibacterial, antiviral, antifungal)
- Central nervous system, neurology and psychiatry
- Ion channels (K, Na, Ca, nAChRs)
- GPCRs (integrins, $a_v b_3$, 5-HT, dopamine, adrenergic)
- Kinases (Raf, p38, DAPK, tryptase)
- Prodrugs and soft drugs

>315 Years of combined industrial experience

- Big Pharma (JNJ, Merck, GSK, Pfizer/Wyeth, DuPont)
- Biotech (Pharmasset, Polymedix, Lexicon, Symphony)
- 13 Ph.D.-level scientific staff

Laboratories

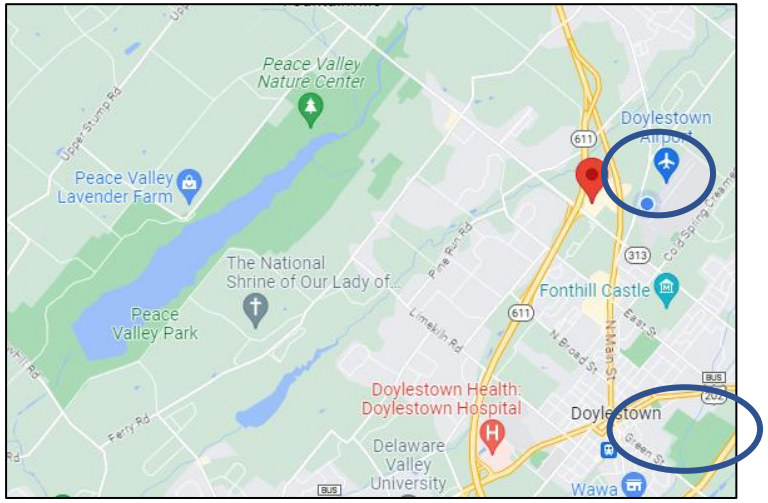
Location: The Pennsylvania Biotechnology Center

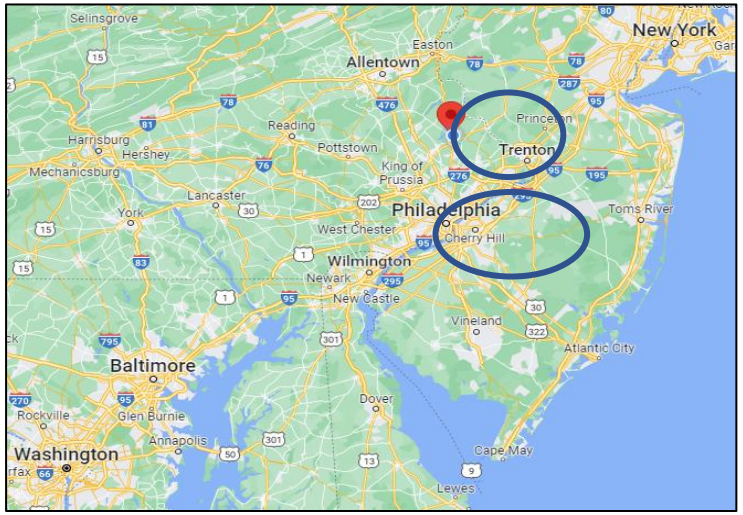
Doylestown, PA, north of Philadelphia

11,000 ft^2 combined laboratory and office space
Fully outfitted with room to grow

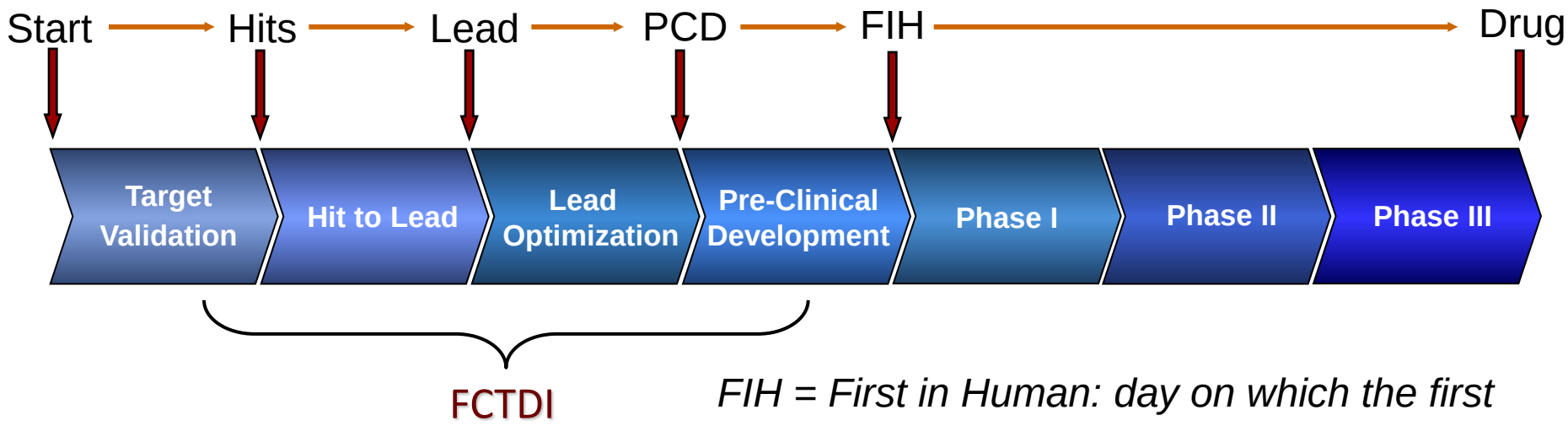
Partial list of onsite resources and instrumentation

- 400-MHz ^{1}H NMR, multinuclear probe, 2D capabilities
- 4 Micromass ZQ Mass Spectrometers, Waters HPLC systems
- Biotage, Gilson, Isco, Prep HPLC purification
- Wyatt DynaPro NanoStar Dynamic Light Scattering (DLS)
- J-810 Jasco Circular Dichroism (CD) instrument
- IDA ElectraSyn 2.0 apparatus for electrochemical reactions
- Two microwave synthesis units
- >36,500 reagents including >2,000 boronic acids
- BSL2 pharmacology laboratories
- Cytation 5 with Biospa DAPI, TR, GRP 4 - 60 X objective
- BioRad Opus 384 Real-Time PCR Detection System
- Nikon Eclipse TE 2000 microscope, image analysis software
- Internal server capabilities with 8 NVIDIA GPUs
- Schrodinger and AI/ML computational software





Drug Discovery Research Continuum



FIH = First in Human: day on which the first clinical dose is administered to any patient

FCTDI is a value-added early-stage innovator company focused on

- unmet medical need
- new commercial opportunities
- creation of new intellectual property
- innovative pharmacology

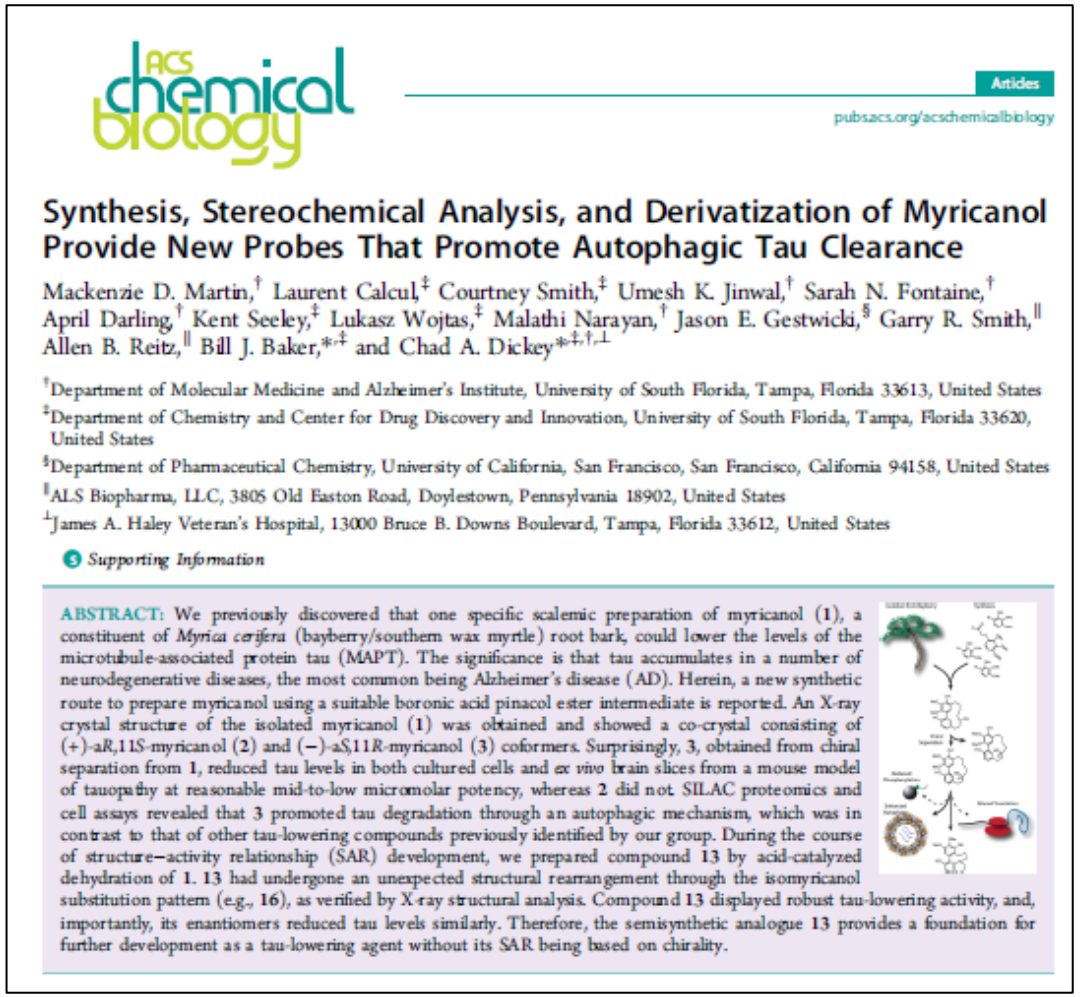
Target Validation

Structure Activity Relationship (SAR) analysis to validate a proposed new molecular target to treat human disease

Hits and probes are obtained from computational prescreening, compound library screening, *in silico* design, literature precedent, and considerations of structural diversity

Preparation of smaller focused libraries or bifunctional conjugates to understand the relation of structure to function early on

Example: Natural product based target validation



ACS chemical biology

Articles

pubs.acs.org/acschemicalbiology

Synthesis, Stereochemical Analysis, and Derivatization of Myricanol Provide New Probes That Promote Autophagic Tau Clearance

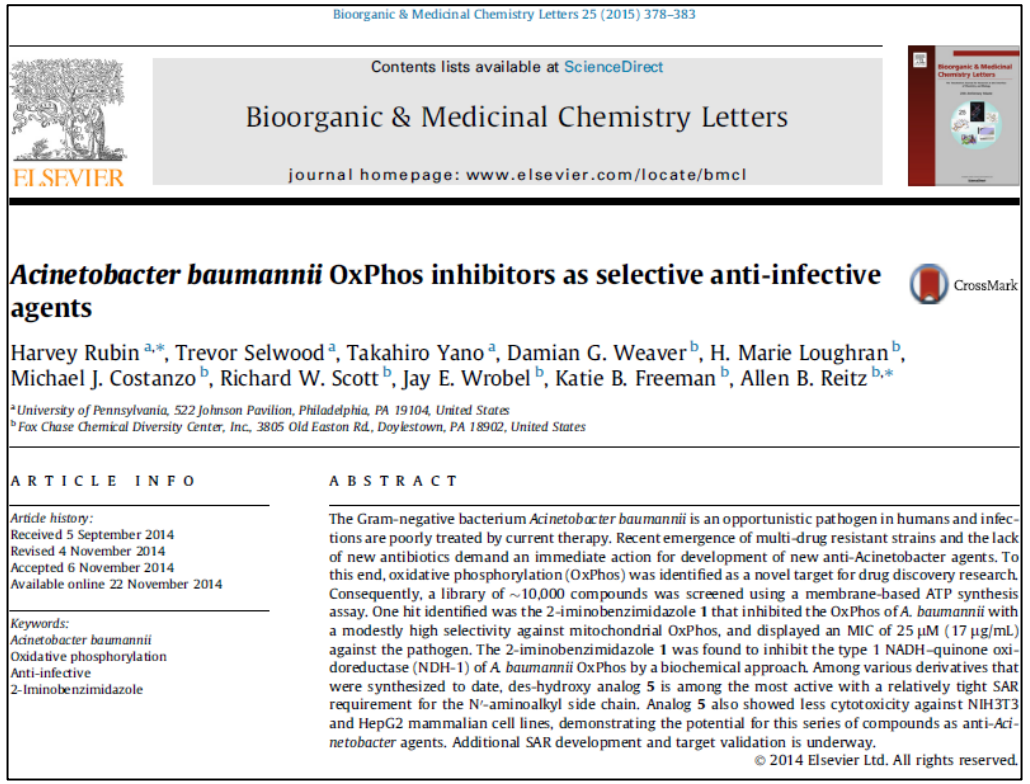
Mackenzie D. Martin,[†] Laurent Calcul,[‡] Courtney Smith,[‡] Umesh K. Jinwal,[†] Sarah N. Fontaine,[†] April Darling,[†] Kent Seeley,[‡] Lukasz Wojtas,[‡] Malathi Narayan,[†] Jason E. Gestwicki,[§] Garry R. Smith,[∥] Allen B. Reitz,[∥] Bill J. Baker,*[,‡] and Chad A. Dickey*[‡,†,⊥]

[†]Department of Molecular Medicine and Alzheimer's Institute, University of South Florida, Tampa, Florida 33613, United States
[‡]Department of Chemistry and Center for Drug Discovery and Innovation, University of South Florida, Tampa, Florida 33620, United States
[§]Department of Pharmaceutical Chemistry, University of California, San Francisco, San Francisco, California 94158, United States
[∥]ALS Biopharma, LLC, 3805 Old Easton Road, Doylestown, Pennsylvania 18902, United States
[⊥]James A. Haley Veteran's Hospital, 13000 Bruce B. Downs Boulevard, Tampa, Florida 33612, United States

Supporting Information

ABSTRACT: We previously discovered that one specific scalemic preparation of myricanol (1), a constituent of *Myrica cerifera* (bayberry/southern wax myrtle) root bark, could lower the levels of the microtubule-associated protein tau (MAPT). The significance is that tau accumulates in a number of neurodegenerative diseases, the most common being Alzheimer's disease (AD). Herein, a new synthetic route to prepare myricanol using a suitable boronic acid pinacol ester intermediate is reported. An X-ray crystal structure of the isolated myricanol (1) was obtained and showed a co-crystal consisting of (+)-aR,11S-myricanol (2) and (−)-aS,11R-myricanol (3) coformers. Surprisingly, 3, obtained from chiral separation from 1, reduced tau levels in both cultured cells and *ex vivo* brain slices from a mouse model of tauopathy at reasonable mid-to-low micromolar potency, whereas 2 did not. SILAC proteomics and cell assays revealed that 3 promoted tau degradation through an autophagic mechanism, which was in contrast to that of other tau-lowering compounds previously identified by our group. During the course of structure−activity relationship (SAR) development, we prepared compound 13 by acid-catalyzed dehydration of 1. 13 had undergone an unexpected structural rearrangement through the isomyricanol substitution pattern (e.g., 16), as verified by X-ray structural analysis. Compound 13 displayed robust tau-lowering activity, and, importantly, its enantiomers reduced tau levels similarly. Therefore, the semisynthetic analogue 13 provides a foundation for further development as a tau-lowering agent without its SAR being based on chirality.

Hit to Lead



Bioorganic & Medicinal Chemistry Letters 25 (2015) 378–383

Contents lists available at ScienceDirect

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journal homepage: www.elsevier.com/locate/bmcl

***Acinetobacter baumannii* OxPhos inhibitors as selective anti-infective agents**

Harvey Rubin [a,*], Trevor Selwood [a], Takahiro Yano [a], Damian G. Weaver [b], H. Marie Loughran [b], Michael J. Costanzo [b], Richard W. Scott [b], Jay E. Wrobel [b], Katie B. Freeman [b], Allen B. Reitz [b,*]

[a] University of Pennsylvania, 522 Johnson Pavilion, Philadelphia, PA 19104, United States
[b] Fox Chase Chemical Diversity Center, Inc., 3805 Old Easton Rd., Doylestown, PA 18902, United States

ARTICLE INFO

Article history:
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Keywords:
Acinetobacter baumannii
Oxidative phosphorylation
Anti-infective
2-Iminobenzimidazole

ABSTRACT

The Gram-negative bacterium *Acinetobacter baumannii* is an opportunistic pathogen in humans and infections are poorly treated by current therapy. Recent emergence of multi-drug resistant strains and the lack of new antibiotics demand an immediate action for development of new anti-Acinetobacter agents. To this end, oxidative phosphorylation (OxPhos) was identified as a novel target for drug discovery research. Consequently, a library of ~10,000 compounds was screened using a membrane-based ATP synthesis assay. One hit identified was the 2-iminobenzimidazole **1** that inhibited the OxPhos of *A. baumannii* with a modestly high selectivity against mitochondrial OxPhos, and displayed an MIC of 25 μM (17 μg/mL) against the pathogen. The 2-iminobenzimidazole **1** was found to inhibit the type 1 NADH–quinone oxidoreductase (NDH-1) of *A. baumannii* OxPhos by a biochemical approach. Among various derivatives that were synthesized to date, des-hydroxy analog **5** is among the most active with a relatively tight SAR requirement for the N′-aminoalkyl side chain. Analog **5** also showed less cytotoxicity against NIH3T3 and HepG2 mammalian cell lines, demonstrating the potential for this series of compounds as anti-*Acinetobacter* agents. Additional SAR development and target validation is underway.

Preparation of related chemical analogs

Factors to consider:

- Activity of hits
- Ease of synthesis
- IP position, and
- Assay throughput

Improve potency of hits as the SAR is established and understood

Initial understanding of metabolic stability from standard *in vitro* assays

Example: SAR Hit to Lead for an infectious disease target

Lead Optimization

Preparation of focused libraries based on validated leads

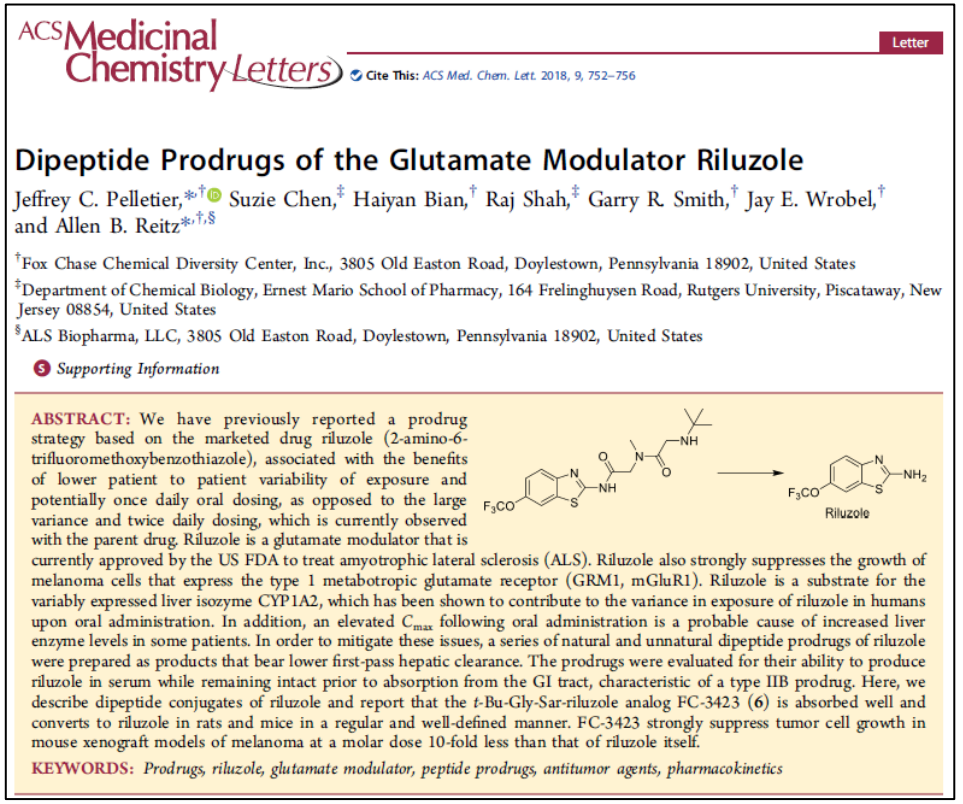
Absorption Distribution Metabolism Excretion (ADME) characterization

- Microsome and hepatocyte stability (human plus other species)
- Cyp 3A4, 2D6, etc.: drug-drug interactions
- Transporters: Caco-2, PAMPA, P-gP
- Plasma protein binding (human plus other species)
- Salt screening and formulations development

Off-target screening, including hERG, GPCRs, ion channels + others

Pharmacokinetics: T_{max}, $t_{1/2}$, C_{max}, %F; mice first, then rats and dogs

Example: Hit to Lead Prodrugs of RIluzole 2018



ACS Medicinal Chemistry Letters — Letter

Cite This: ACS Med. Chem. Lett. 2018, 9, 752−756

Dipeptide Prodrugs of the Glutamate Modulator Riluzole

Jeffrey C. Pelletier,*[†] Suzie Chen,[‡] Haiyan Bian,[†] Raj Shah,[‡] Garry R. Smith,[†] Jay E. Wrobel,[†] and Allen B. Reitz*[†,§]

[†]Fox Chase Chemical Diversity Center, Inc., 3805 Old Easton Road, Doylestown, Pennsylvania 18902, United States

[‡]Department of Chemical Biology, Ernest Mario School of Pharmacy, 164 Frelinghuysen Road, Rutgers University, Piscataway, New Jersey 08854, United States

[§]ALS Biopharma, LLC, 3805 Old Easton Road, Doylestown, Pennsylvania 18902, United States

Supporting Information

ABSTRACT: We have previously reported a prodrug strategy based on the marketed drug riluzole (2-amino-6-trifluoromethoxybenzothiazole), associated with the benefits of lower patient to patient variability of exposure and potentially once daily oral dosing, as opposed to the large variance and twice daily dosing, which is currently observed with the parent drug. Riluzole is a glutamate modulator that is currently approved by the US FDA to treat amyotrophic lateral sclerosis (ALS). Riluzole also strongly suppresses the growth of melanoma cells that express the type 1 metabotropic glutamate receptor (GRM1, mGluR1). Riluzole is a substrate for the variably expressed liver isozyme CYP1A2, which has been shown to contribute to the variance in exposure of riluzole in humans upon oral administration. In addition, an elevated C_{max} following oral administration is a probable cause of increased liver enzyme levels in some patients. In order to mitigate these issues, a series of natural and unnatural dipeptide prodrugs of riluzole were prepared as products that bear lower first-pass hepatic clearance. The prodrugs were evaluated for their ability to produce riluzole in serum while remaining intact prior to absorption from the GI tract, characteristic of a type IIB prodrug. Here, we describe dipeptide conjugates of riluzole and report that the *t*-Bu-Gly-Sar-riluzole analog FC-3423 (**6**) is absorbed well and converts to riluzole in rats and mice in a regular and well-defined manner. FC-3423 strongly suppress tumor cell growth in mouse xenograft models of melanoma at a molar dose 10-fold less than that of riluzole itself.

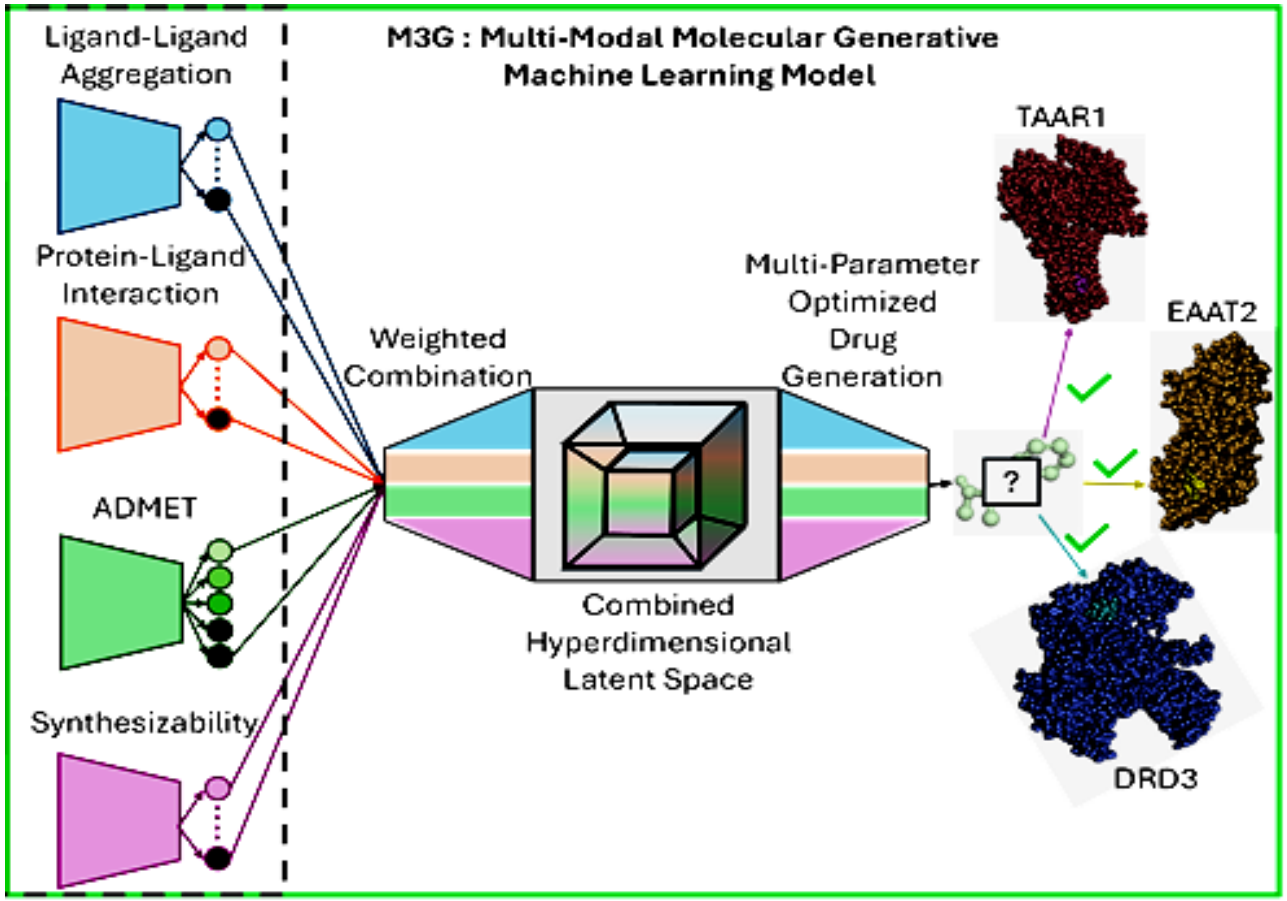
KEYWORDS: *Prodrugs, riluzole, glutamate modulator, peptide prodrugs, antitumor agents, pharmacokinetics*

New Technologies in Lead Generation

Machine Learning and Artificial Intelligence using BioNeMo, POLYGON, REINVENT4 and M3G developed internally, a Multi-Module Molecular Generative Machine Learning Model (example below)

PROTACS: Example - 2024 PROTAC publication in Cell Chem. Biol.

Stapled Peptides: Example - Stapled peptide for topical delivery to the eye



Computational Chemistry, Structural Biology

Computational methods are employed throughout

Pharmacophore SAR development and computational docking

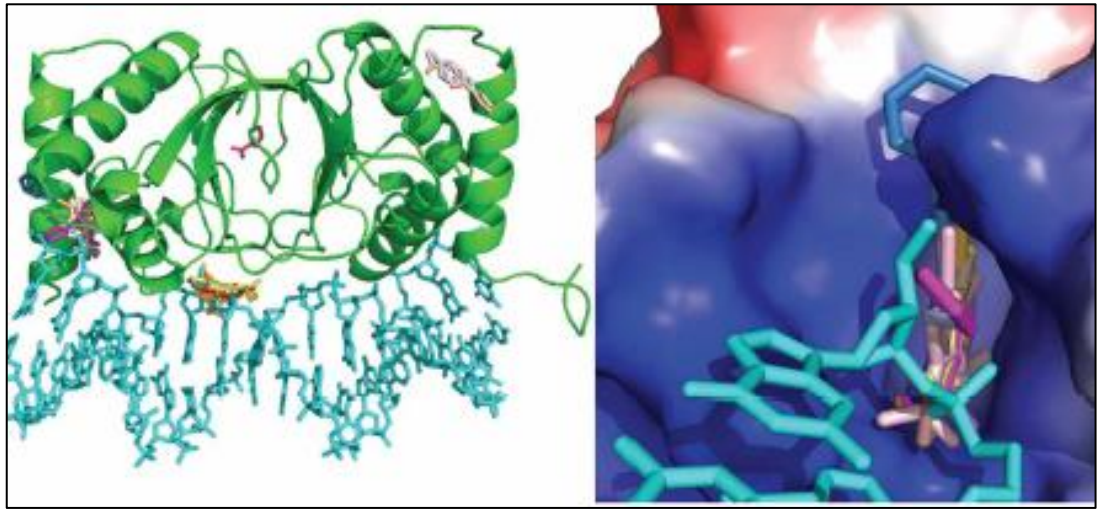
Software used: Schrodinger, ChemAxon, DataWarrior, ACD

Use of drug-likeness metrics including ligand efficiency (LE)

Fragment-based drug discovery

Prodrug and soft drug approaches

X-Ray and cryo-EM opportunities with collaborators



X-Ray structure of an inhibitor of Epstein Barr Nuclear Antigen EBNA1 co-crystalized with the protein: FCTDI collaboration with The Wistar Institute: Published in Sci. Transl. Med.

Intellectual Property

Freedom to operate and competitive landscape analysis

Industry-standard archiving of notebooks and data

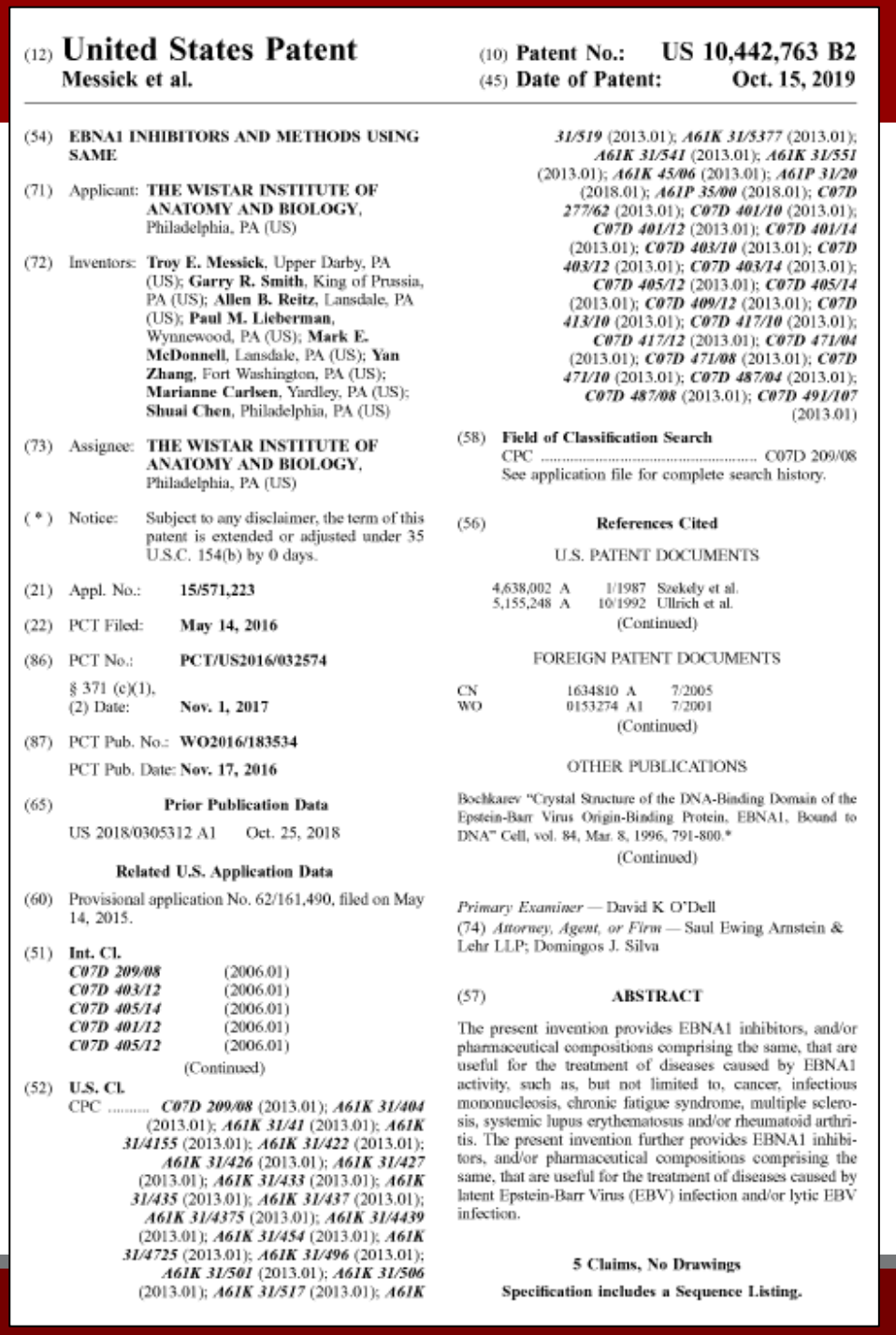
Back-up computer systems to prevent loss of data

Drafting applications with collaborators

Assisting in patent prosecution

>24 Issued U.S. patents

Example: US 10,442,763 B2



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

(10) **Patent No.: US 10,442,763 B2**
(45) **Date of Patent: Oct. 15, 2019**

(54) **EBNA1 INHIBITORS AND METHODS USING SAME**

(71) Applicant: **THE WISTAR INSTITUTE OF ANATOMY AND BIOLOGY**, Philadelphia, PA (US)

(72) Inventors: **Troy E. Messick**, Upper Darby, PA (US); **Garry R. Smith**, King of Prussia, PA (US); **Allen B. Reitz**, Lansdale, PA (US); **Paul M. Lieberman**, Wynnewood, PA (US); **Mark E. McDonnell**, Lansdale, PA (US); **Yan Zhang**, Fort Washington, PA (US); **Marianne Carlsen**, Yardley, PA (US); **Shuai Chen**, Philadelphia, PA (US)

(73) Assignee: **THE WISTAR INSTITUTE OF ANATOMY AND BIOLOGY**, Philadelphia, PA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **15/571,223**

(22) PCT Filed: **May 14, 2016**

(86) PCT No.: **PCT/US2016/032574**
§ 371 (c)(1),
(2) Date: **Nov. 1, 2017**

(87) PCT Pub. No.: **WO2016/183534**
PCT Pub. Date: **Nov. 17, 2016**

(65) **Prior Publication Data**

US 2018/0305312 A1 Oct. 25, 2018

Related U.S. Application Data

(60) Provisional application No. 62/161,490, filed on May 14, 2015.

(51) **Int. Cl.**

C07D 209/08	(2006.01)
C07D 403/12	(2006.01)
C07D 405/14	(2006.01)
C07D 401/12	(2006.01)
C07D 405/12	(2006.01)

(Continued)

(52) **U.S. Cl.**
CPC ***C07D 209/08*** (2013.01); ***A61K 31/404*** (2013.01); ***A61K 31/41*** (2013.01); ***A61K 31/4155*** (2013.01); ***A61K 31/422*** (2013.01); ***A61K 31/426*** (2013.01); ***A61K 31/427*** (2013.01); ***A61K 31/433*** (2013.01); ***A61K 31/435*** (2013.01); ***A61K 31/437*** (2013.01); ***A61K 31/4375*** (2013.01); ***A61K 31/4439*** (2013.01); ***A61K 31/454*** (2013.01); ***A61K 31/4725*** (2013.01); ***A61K 31/496*** (2013.01); ***A61K 31/501*** (2013.01); ***A61K 31/506*** (2013.01); ***A61K 31/517*** (2013.01); ***A61K 31/519*** (2013.01); ***A61K 31/5377*** (2013.01); ***A61K 31/541*** (2013.01); ***A61K 31/551*** (2013.01); ***A61K 45/06*** (2013.01); ***A61P 31/20*** (2018.01); ***A61P 35/00*** (2018.01); ***C07D 277/62*** (2013.01); ***C07D 401/10*** (2013.01); ***C07D 401/12*** (2013.01); ***C07D 401/14*** (2013.01); ***C07D 403/10*** (2013.01); ***C07D 403/12*** (2013.01); ***C07D 403/14*** (2013.01); ***C07D 405/12*** (2013.01); ***C07D 405/14*** (2013.01); ***C07D 409/12*** (2013.01); ***C07D 413/10*** (2013.01); ***C07D 417/10*** (2013.01); ***C07D 417/12*** (2013.01); ***C07D 471/04*** (2013.01); ***C07D 471/08*** (2013.01); ***C07D 471/10*** (2013.01); ***C07D 487/04*** (2013.01); ***C07D 491/107*** (2013.01)

(58) **Field of Classification Search**
CPC C07D 209/08
See application file for complete search history.

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(Continued)

Primary Examiner — David K O'Dell
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(57) **ABSTRACT**

The present invention provides EBNA1 inhibitors, and/or pharmaceutical compositions comprising the same, that are useful for the treatment of diseases caused by EBNA1 activity, such as, but not limited to, cancer, infectious mononucleosis, chronic fatigue syndrome, multiple sclerosis, systemic lupus erythematosus and/or rheumatoid arthritis. The present invention further provides EBNA1 inhibitors, and/or pharmaceutical compositions comprising the same, that are useful for the treatment of diseases caused by latent Epstein-Barr Virus (EBV) infection and/or lytic EBV infection.

5 Claims, No Drawings

Specification includes a Sequence Listing.

FCTDI Financial Management Practices and Controls

FCTDI Financial Management. FCTDI receives funds from the National Institutes of Health. As such, it is required to conduct an annual audit subject to GASB standards (standards set by the Government Accounting Standards Board). FCTDI submits its annual audit to the NIH as part of its yearly compliance checklist. FCTDI's audit includes a review and opinion on the company's internal control policies. Its internal control policies ensure tight control over resources, while also compartmentalizing activities into different funds in order to clarify how resources are directed to various funded programs. FCTDI management utilizes financial information subject to Its internal controls to monitor for organizational efficiency, resource allocation, profitability and fraud prevention.

FCTDI Monitors Results with Timely Financial Reporting. FCTDI monitors financial results monthly versus budget and adjusts project spending as indicated based upon the scientific justification for the work, the funding that is available, and the economic rationale as determined by cost/benefit analysis.

FCTDI Maintains Compliance with National Institutes of Health Grant Policy Statement. As an NIH grant recipient, FCTDI continually monitors changes to the NIH Grant policy Statement and incorporates those changes into its policies and internal controls. FCTDI actively monitors and prevents undue conflicts of interest. FCTDI also maintains a federally negotiated indirect cost rate with Indirect Cost Branch of the Division of Financial Advisory Services (DFAS).

Three NCEs Advanced to the Clinic

Troriluzole. FCTDI has worked with **Biohaven Pharmaceuticals** since 2015 to advance prodrugs of riluzole including third-generation prodrug troriluzole which is actively transported by virtue of having a tripeptide moiety. Troriluzole was acquired by Biohaven Pharmaceuticals and is under clinical evaluation for the treatment of **spinocerebellar ataxia** and **obsessive compulsive disorders** and related conditions. It is described in US 10,485,791 (Nov. 26, 2019), US 10,639,298 (May 5, 2020),US 10,905,681 (Feb. 2, 2021) and US 11,052,070 (Jul. 6, 2021) with FCTDI staff listed as inventors. Troriluzole is currently under regulatory review at both the FDA and EMA for the treatment of spinocerebellar ataxias. Troriluzole

VK-2019. FCTDI has performed collaborative research with **The Wistar Institute** since 2010 to advance small inhibitors of Epstein Barr Nuclear Antigen EBNA1 for the treatment of cancer. This work was supported by two rounds of funding from the Wellcome Trust for a total amount of >$11M. Lead VK-2019 is in human clinical trials for the treatment of **nasopharyngeal carcinoma** at Stanford University and is included in US 10,442,763 (Oct. 15,2019) and US 10,981, 867 (Apr. 20, 2021), both entitled “EBNA1 inhibitors and methods using same,” listing FCTDI and Wistar staff as inventors. 20 Jan 2025 Press Release

OLX-07010. As part of a collaborative research project, FCTDI has worked with **Oligomerix, Inc**. since early 2015 to discover new small molecules that inhibit aggregation of the protein tau for the treatment of **Alzheimer’s disease** and related disorders. From this work OLX-07010 was selected and advanced through preclinical development to First-in-Human clinical dosing on Feb.2, 2023. OLX-07010 is included in US 12,306,075 (Apr. 19, 2022) “Benzofuran, benzothiophene, and indole analogs that inhibit the formation of tau oligomers and their method of use” that lists FCTDI and Oligomerix staff as inventors. OLX-07010