Atomwise

Bringing the Power of AI Drug Discovery to our Strategic Partners

www.Atomwise.com

Better Medicines, Faster.

The leader in AI for drug discovery

1st
to invent and use ConvNets for drug design

$50M+
funding raised from prominent investors

16B+
small molecules in AtomNet

700+
drug discovery projects to date

Top10
we work with the world's top pharma companies

75%
success across AIMS projects to date

Partnerships that Accelerate Drug Discovery

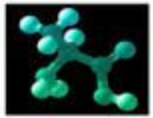
Over $5.5B in signed deals

Leading AI Technology for Drug Design

Screen 16B+ small molecules with AtomNet®

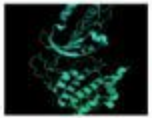
The 1st company to use Convolutional Neural Nets (CNNs) for structure-based drug discovery

1



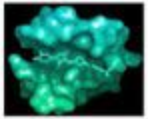
Map Atoms in 3D Space, use Voxels and Poses

2

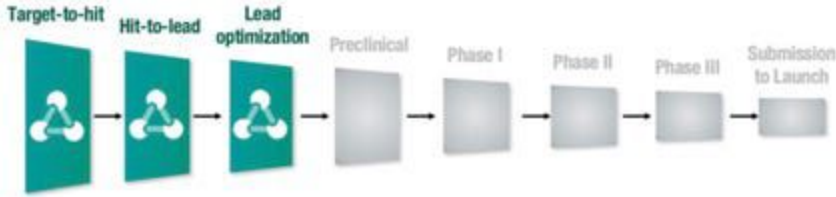


Screen 16+B chemicals for predicted interaction with the target

3

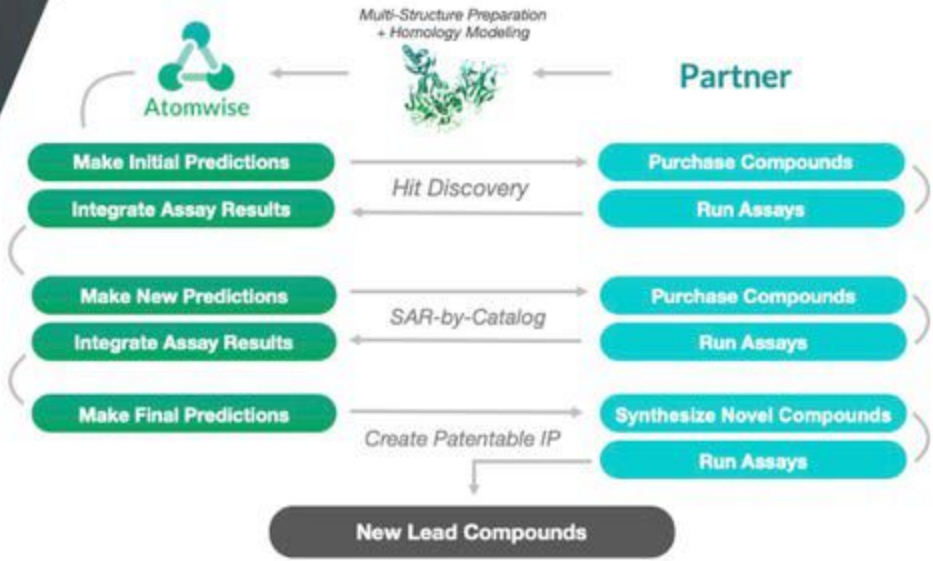


Send compounds to partner for lab testing (75% success)



A Seamless Partnership from Start to Finish

With our team of Med Chem and AI experts



Proven Success with Challenging Targets

We solve the hardest problems in computer aided drug design, delivering hits even when there is little-to-no structural data for a target. We have a history of success, delivering at least one hit validated in laboratory experiments 74% of the time, keeping our partners ahead of their competition.

Overall Success

120 Projects

74% Success

No Training Data

55 Projects

71% Success

Homology Model

20 Projects

71% Success

X-ray Structure

84 Projects

75% Success

Protein-Protein Interactions

23 Projects

83% Success

EM-Cryo Data

1 Project

100% Success

Academic Partnerships

Several ways to collaborate with Atomwise

AIMS Awards Program

Fast and streamlined project to conduct hit discovery

Flexible with publication and commercialization

Co-Development Project

Tailored collaboration spanning from hit discovery to identification of a clinical candidate

Revenue sharing model that reflects each party's contribution

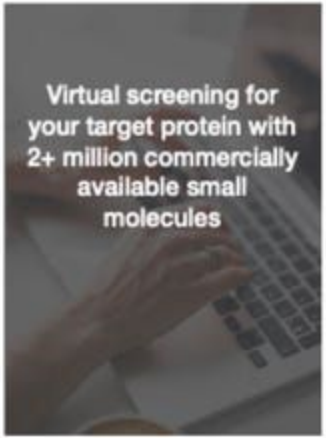
Joint Venture

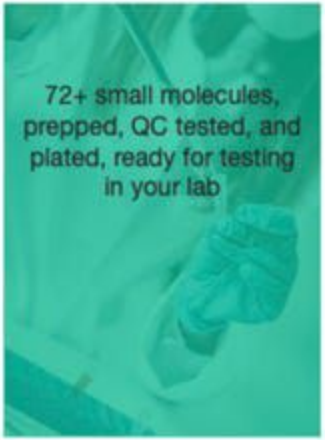
Sharing in the risk and benefits of developing a drug candidate

Access to our CADDS ecosystem, a network of Atomwise partnerships that can support our JVs

AIMS Awards Program

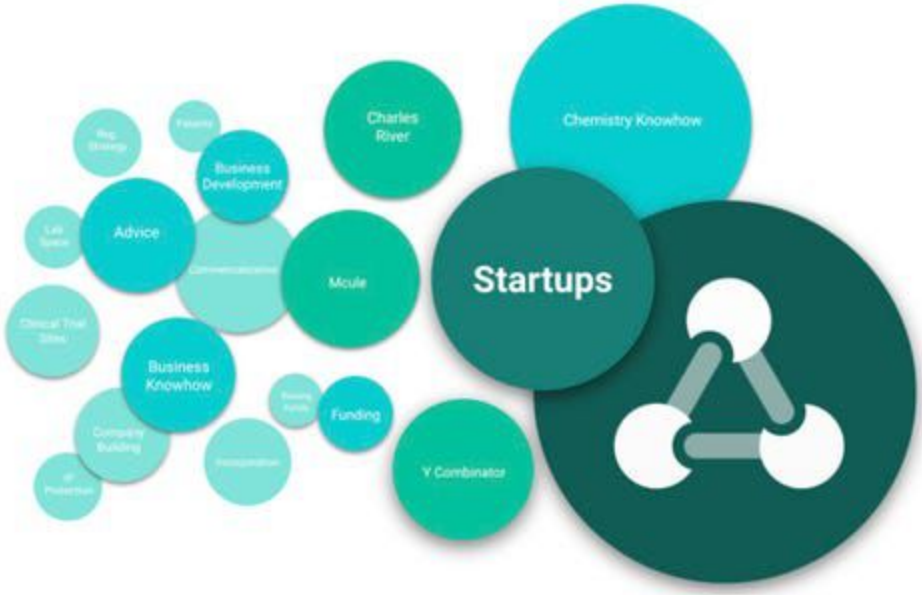
Artificial Intelligence Molecular Screen (AIMS) Awards provide valuable access to AI-based drug design to academic research labs.





Our CADDS Ecosystem

Chemistry for Academic Drug Discovery Startups Ecosystem

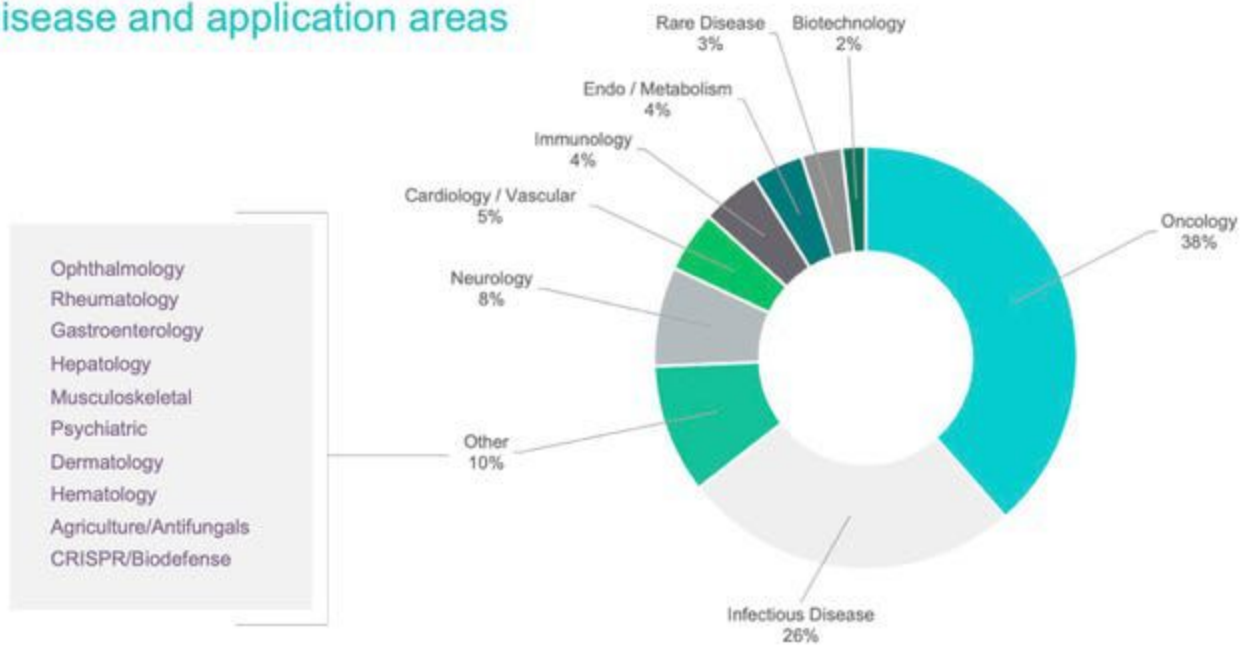


Supporting the full lifecycle of preclinical drug development

Startups working with Atomwise have access to all the tools and resources that Atomwise and our partners, including leading CRO, Charles River, and vendors, Mcule and Enamine, have to offer to support innovation and the development of the next generation of medicines.

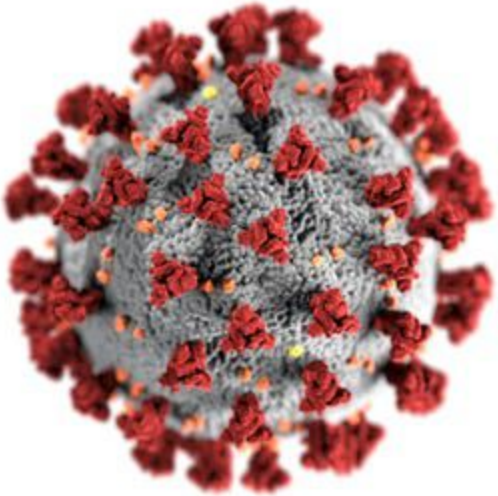
Enormous Breadth of Applications

775 accepted projects to date across diverse disease and application areas



Broad Spectrum COVID Projects

Targeting MERS, SARS-CoV-1 and SARS-CoV-2 with multiple angles of attack



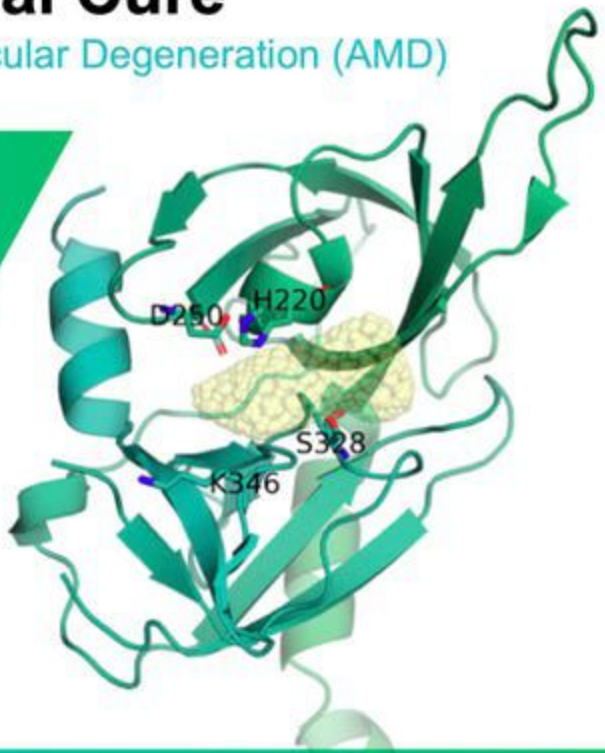
Target	Institute
Undisclosed	Dana-Farber Cancer Institute
Nucleocapsid (N-protein)	Columbia University
NSP15	University of Connecticut
Papain-Like Protease (PLpro)	University of Kentucky
IL-6 Signaling Pathway	University of Manitoba
RdRp in NSP12	University of Manitoba
Spike-ACE2	University of South Australia
Spike-ACE2	University of Texas Medical Branch (UTMB) Health
Spike (heptad region)	Jazan University, Saudi Arabia
Undisclosed	University of Texas Health Science Center San Antonio
Undisclosed	University of Toledo

From Gene Variant to Potential Cure

HTRA1 - 1st in class treatment for Age-Related Macular Degeneration (AMD)

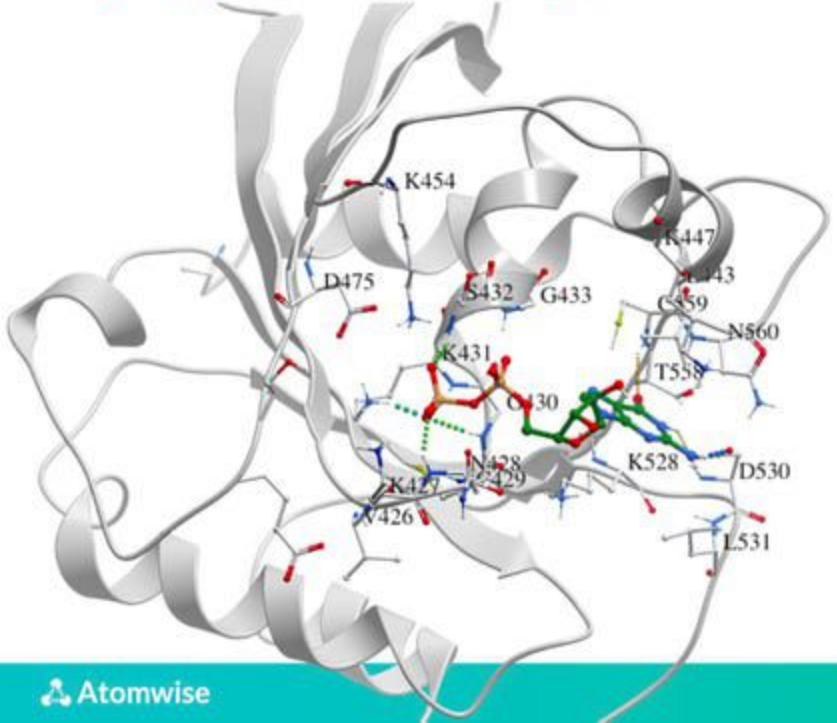
"Theia Biosciences is building off of the initial research started in collaboration with Atomwise during my first AIMS Award. Theia Biosciences is focused initially on meeting an unmet medical need in helping treat age-related macular degeneration through developing small molecule inhibitors."

Dr. Jeff Perry
Assistant Professor of Biochemistry at UC Riverside and Scientific Co-founder of Theia Biosciences



Parkinson's Disease

Targeting Miro1 and Neurodegeneration



Short Article

Cell Metabolism

Miro1 Marks Parkinson's Disease Subset and Miro1 Reducer Rescues Neuron Loss in Parkinson's Models

Chung-Han Hsieh,[1,2] Li Li,[1,4] Roeland Vanhauwaert,[1] Kong T. Nguyen,[1] Mary D. Davis,[1] Guojun Bu,[3] Zbigniew K. Wszolek,[3] and Xinnan Wang[1,4,*]
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https://doi.org/10.1016/j.cmet.2019.08.023

Highlights

- Atomwise found a novel small molecule that promotes Miro1 degradation in PD fibroblasts
- Treating PD models with this compound rescues dopaminergic neurodegeneration
- Miro1 marker and engaging in Miro1-based therapies could open new avenues to personalized medicine

Hsieh et al., 2019, Cell Metabolism 30, 1–15
December 3, 2019 © 2019 Elsevier Inc.
https://doi.org/10.1016/j.cmet.2019.08.023

CellPress

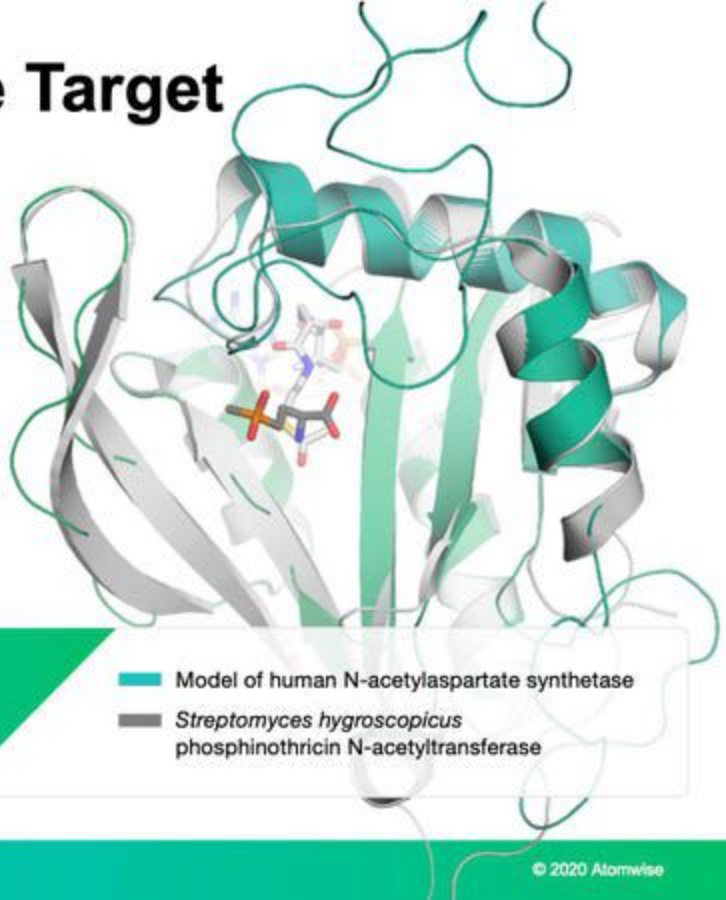
Hope for an Undruggable Target

N-acetylaspartate synthetase (NAT8L)

No Physical screening
- Membrane-associated protein and difficult to purify

No Medicinal Chemistry
- No drug-like inhibitors were previously known

No Computational screening
- No available crystal structures
- Extremely low sequence identity template (20%)



Atomwise screened 7.2M compounds in <2 hrs
5/60 compounds identified as hits.

Model of human N-acetylaspartate synthetase

Streptomyces hygroscopicus phosphinothricin N-acetyltransferase