

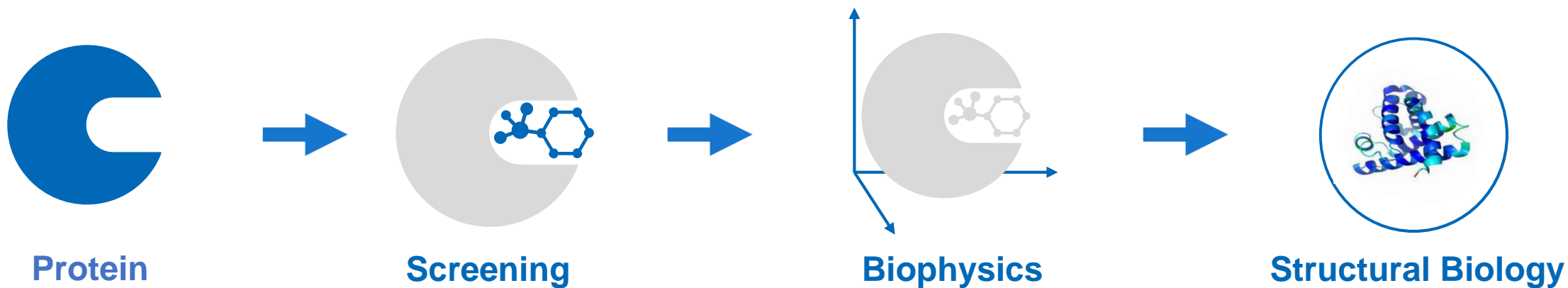
A DNA-Encoded Library (DEL) Platform for Academic Targets

Alexander L. Satz
May 26, 2020

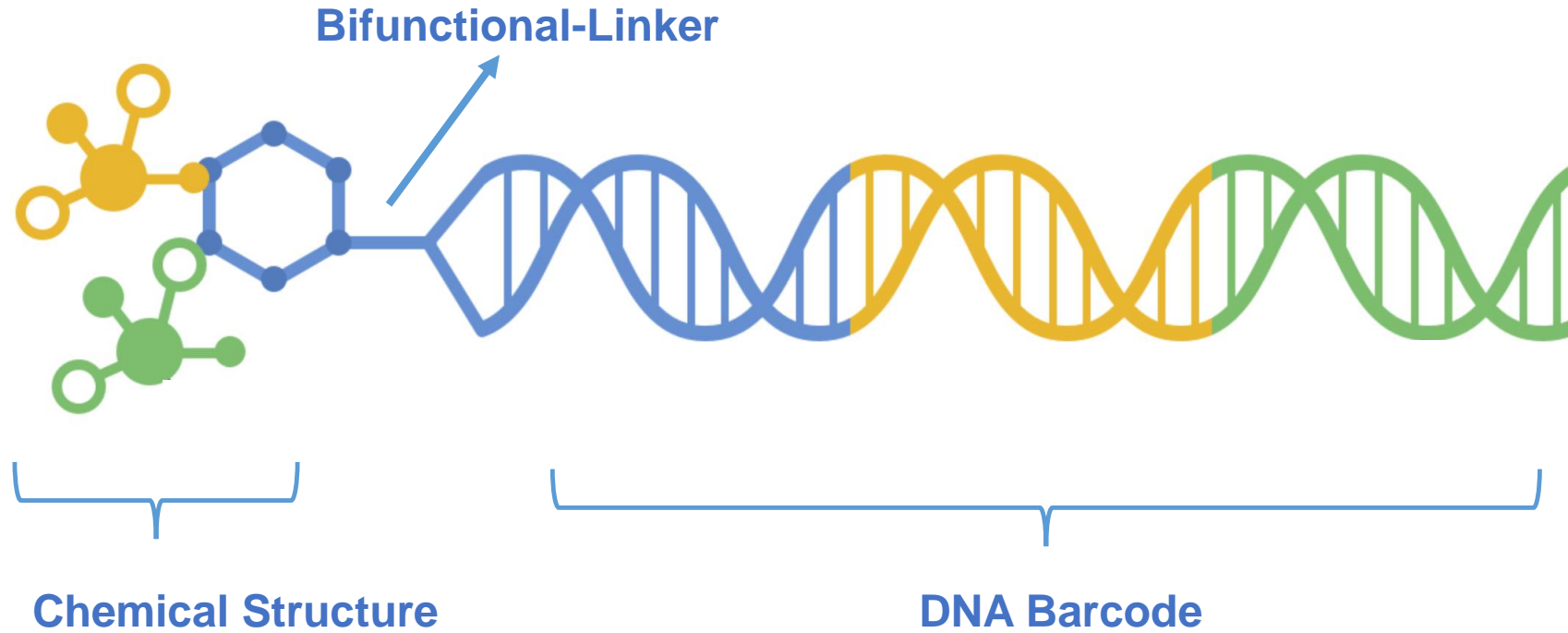


Targets to Chemical Matter

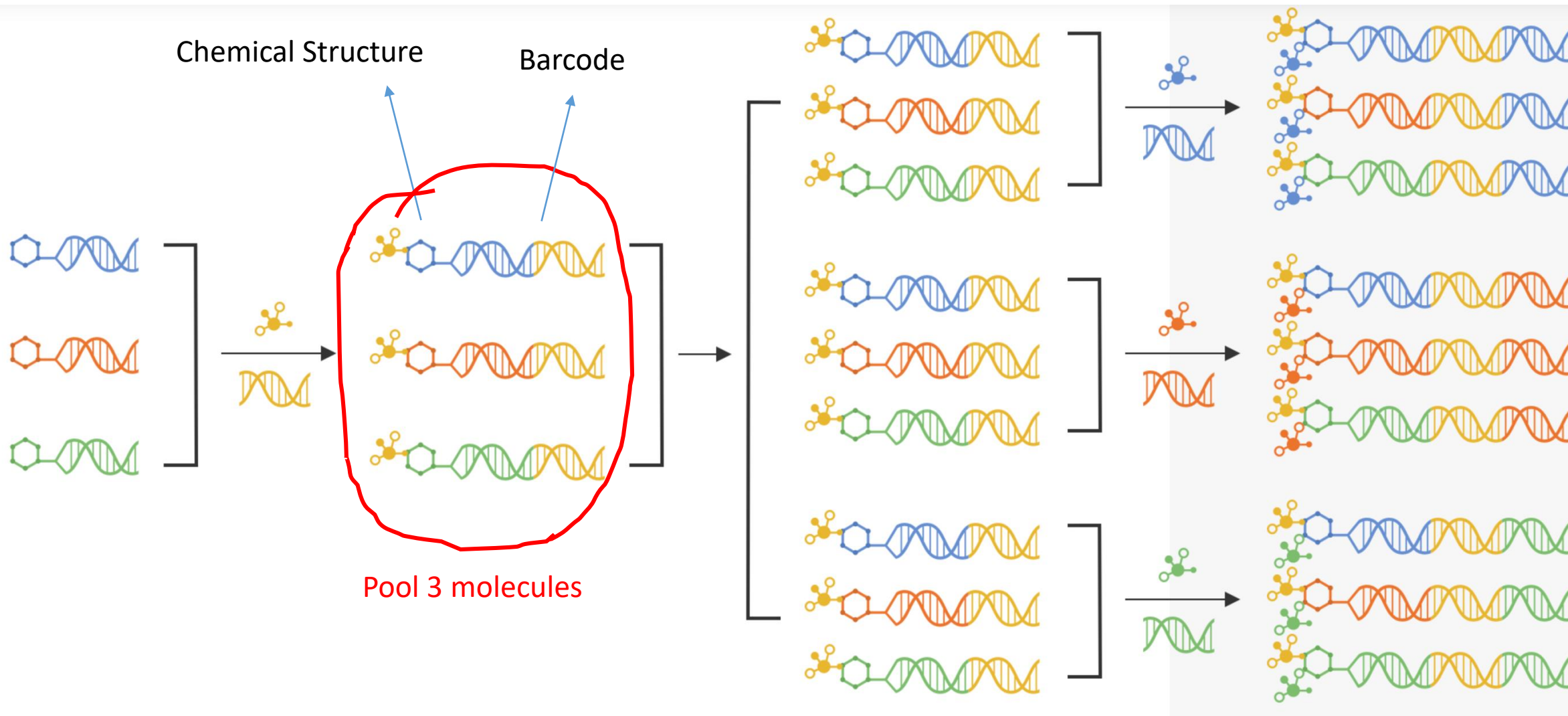
Early Stage Drug Discovery



DNA Encoded Libraries (DEL) Molecule

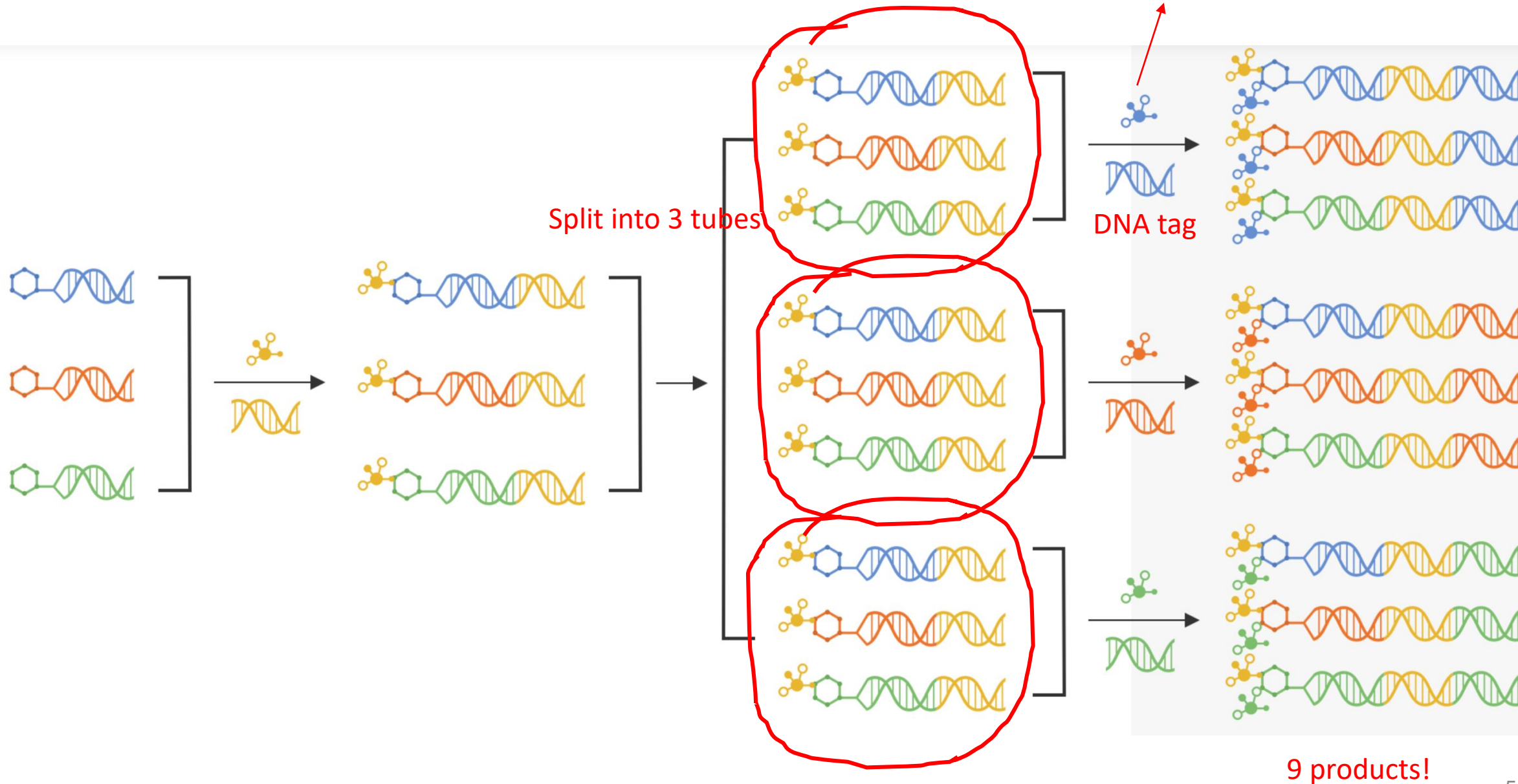


Making DNA Encoded Libraries (DELs)

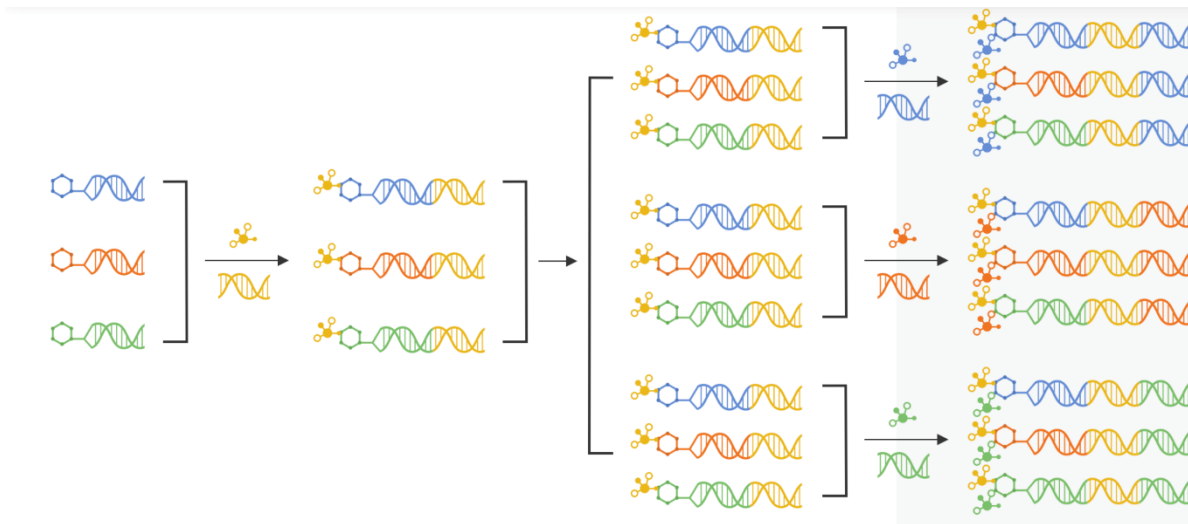


‘Split-and-Pool Combinatorial Chemistry’

Making DNA Encoded Libraries (DELs)



Making DNA Encoded Libraries (DELs)



$96 \times 96 \times 96 \times 96 = 85$ million different chemical structures

or

$9000 \times 9000 = 81$ million structures

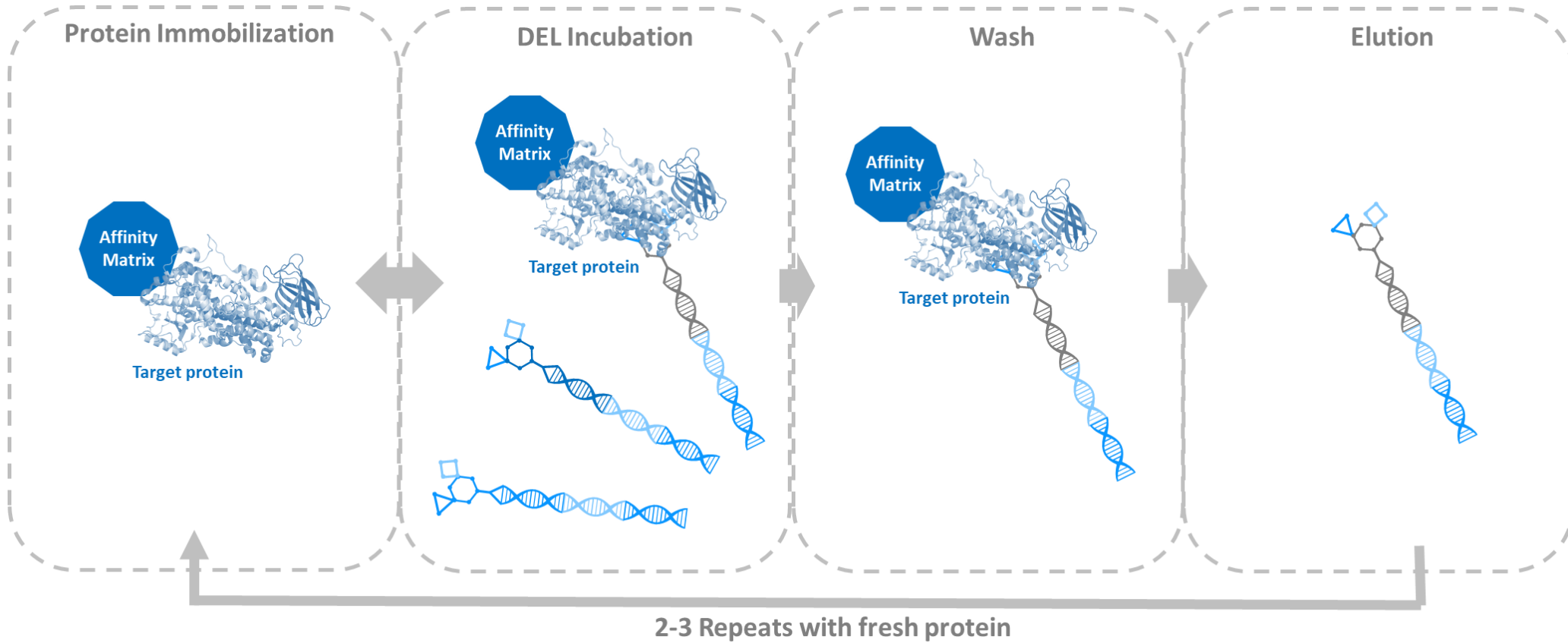
Billions of chemical structures in each tube



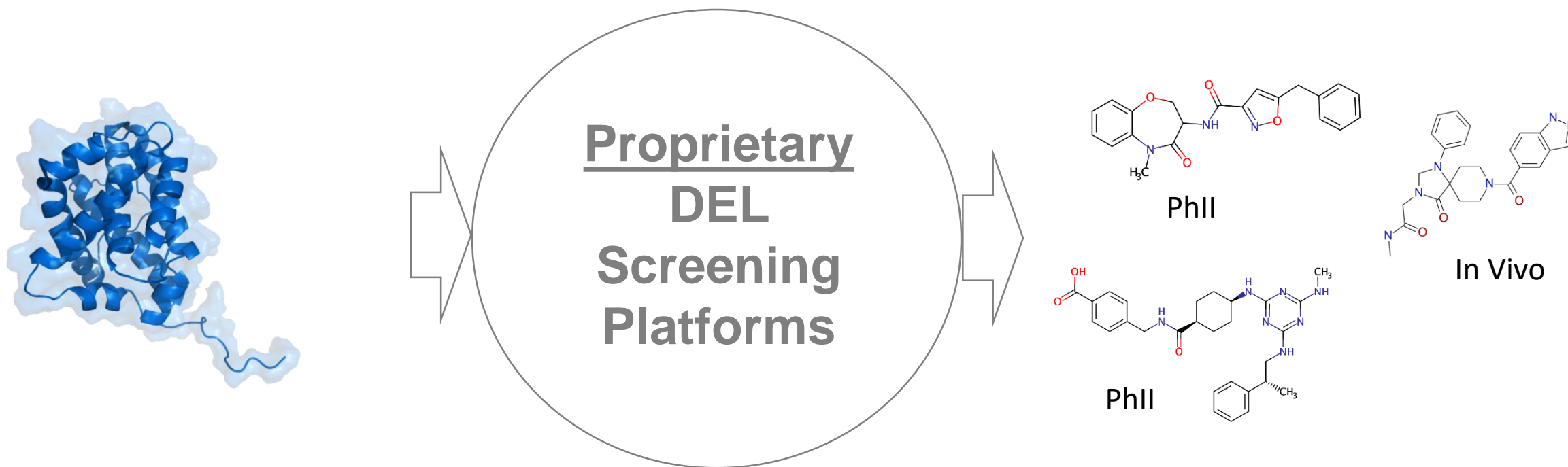
14 billion different encoded
chemical structures in each tube!

Each tube contains (effectively) an identical copy of the same 14 billion chemical structures

DEL Affinity Screen



DEL Screening Provides Drug-like Chemical Matter



For More Examples of Published DEL Hits:

What Do You Get from DNA-Encoded Libraries? Satz, A. ACS Med. Chem. Lett., 2018; 9(5), 408-410.

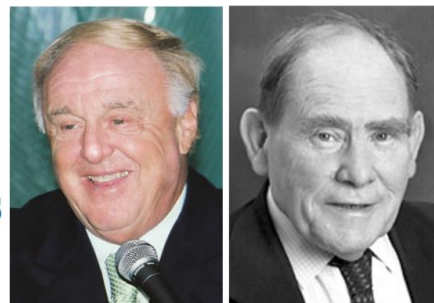
Chemical Space of DNA-Encoded Libraries. Franzini, R.M. and Randolph, C., J Med Chem, 2016; 59(14), 6629-44.

Open Access to DEL Screening

International Edition: DOI: 10.1002/anie.201612143
German Edition: DOI: 10.1002/ange.201612143

DNA-Encoded Compound Libraries as Open Source: A Powerful Pathway to New Drugs

Richard A. Lerner and Sydney Brenner*



Richard A. Lerner
Institute Professor
The Scripps Research
Institute

Sydney A. Brenner
Professor
The Scripps Research
Institute

For Academics
<https://delopen.org>

DELOpen Scientific Advisory Board

The board will set the direction and guide the development of DELOpen in its vision to advance the adoption of DNA encoded library technology in new drug discovery.



Richard Lerner

Institute Professor
Professor, Department of
Chemistry, California



Phil Baran

Darlene Shiley Chair in
Chemistry, Professor
Department of Chemistry,



Carolyn Bertozzi

Director, ChEM-H, Anne T.
and Robert M. Bass
Professor in the School of



Raymond Dwek

Director of the Oxford
Glycobiology Institute
University of Oxford

[View more](#)

WuXi DEL Screening Business Model

Pre-Selection Tests → Affinity Selection → NGS → Data Analysis

WuXi DEL Selection Package

DELlight

DELopen



WuXi DEL Selection Package

- **>80 billion** compounds
- **>200 libraries**
- For all users at competitive market price



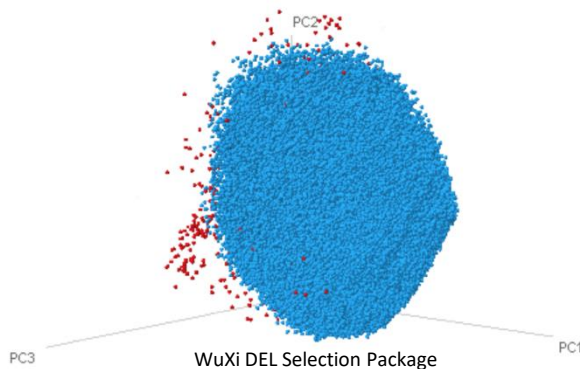
For Everyone

- **14 billion** compounds
- **51 libraries**
- For all users at economic price

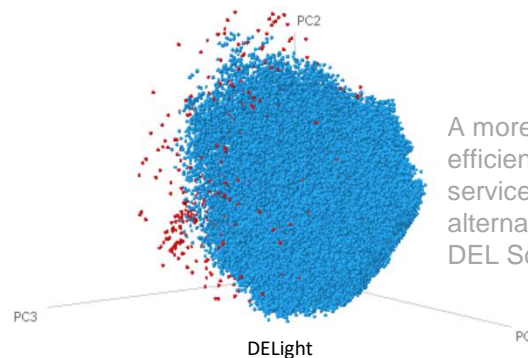
For Academics

DELopen

- **4.4 billion** compounds
- **31 libraries**
- **Free** for academic user

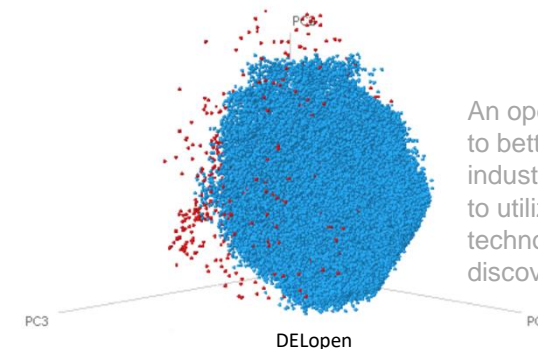


Proprietary building blocks (BBs)



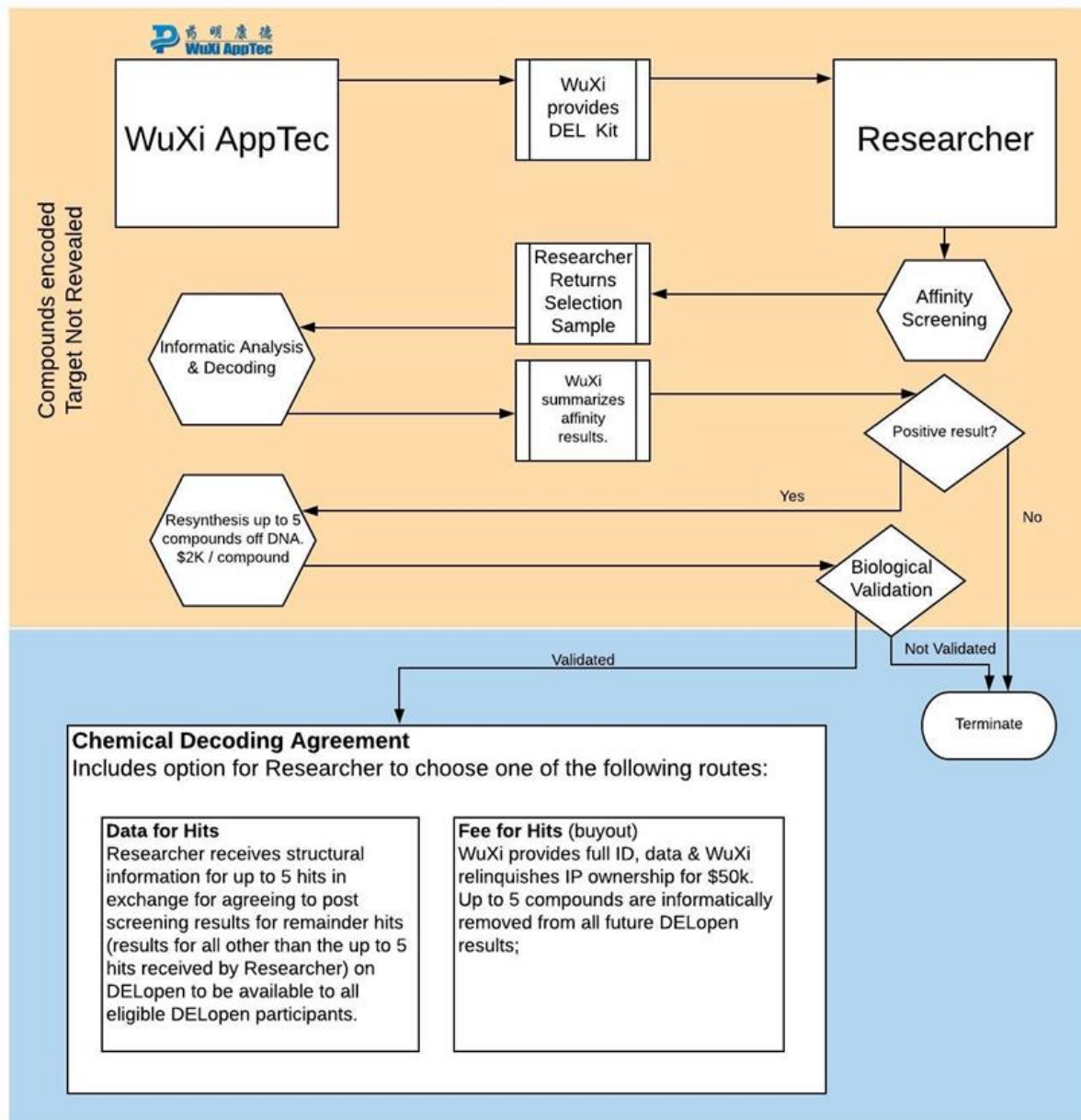
All commercial BBs

A more convenient, efficient and economical service package as alternative to traditional DEL Screening service

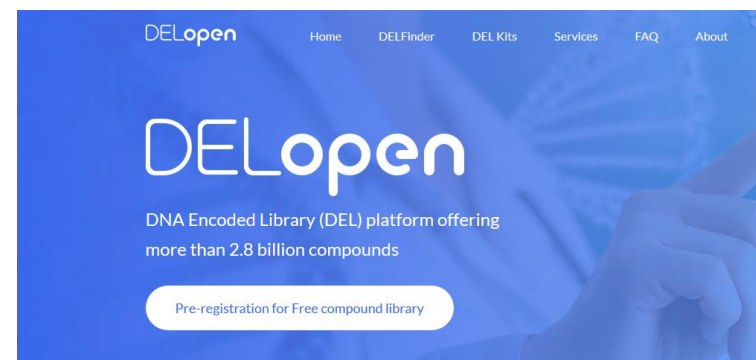


All commercial BBs

An open source platform to better connect industry and academia to utilize DEL technology in drug discovery

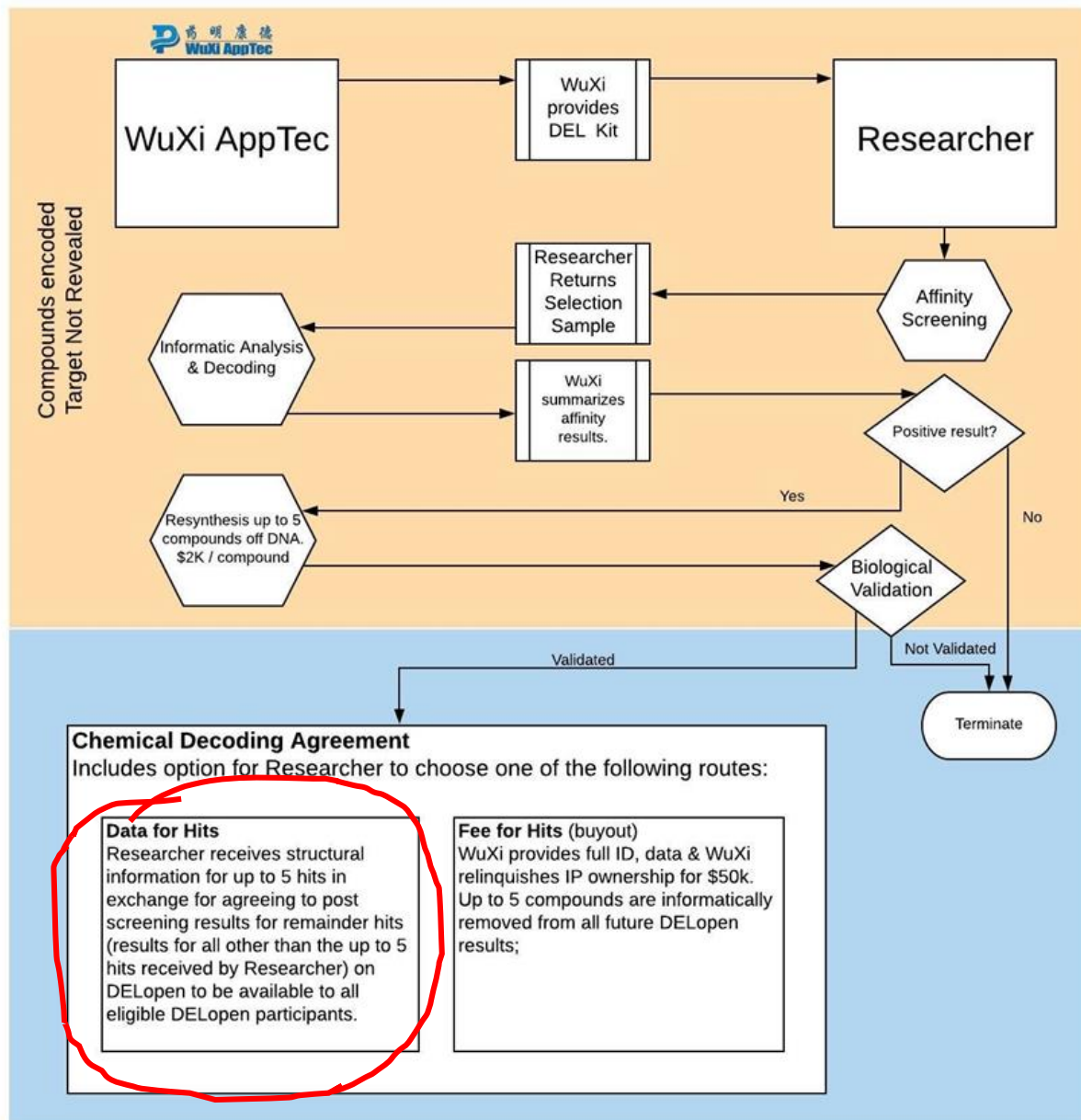


<https://delopen.org/>



<https://www.youtube.com/watch?v=TVS2sUUUzZI>



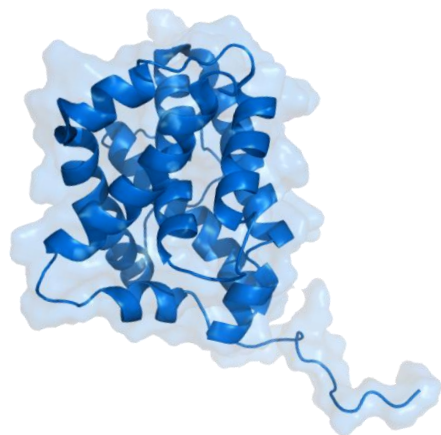


■ You are free to work on your hits

- patent
- start a company
- sell

“You Get What You Screen For”

- Frances Arnold, Nobel Laureate in Chemistry

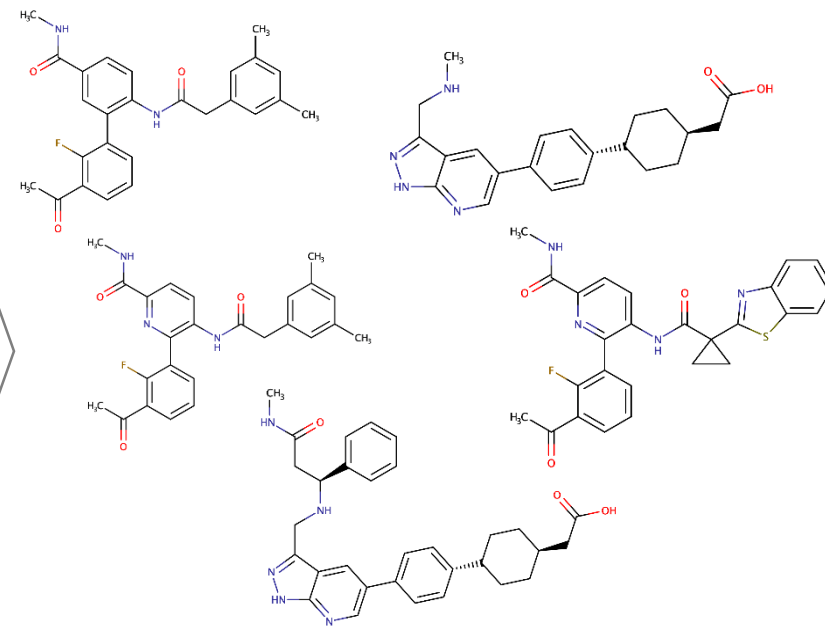


Target Quality

- >90% purity
- Not aggregated
- Correctly folded
 - Binding to positive control
 - Forming expected protein complexes



Potent drug-like chemical matter





OUR COMMITMENT

Improving Health. Making a Difference.

