

## **Drug Delivery through the Blood Brain Barrier**

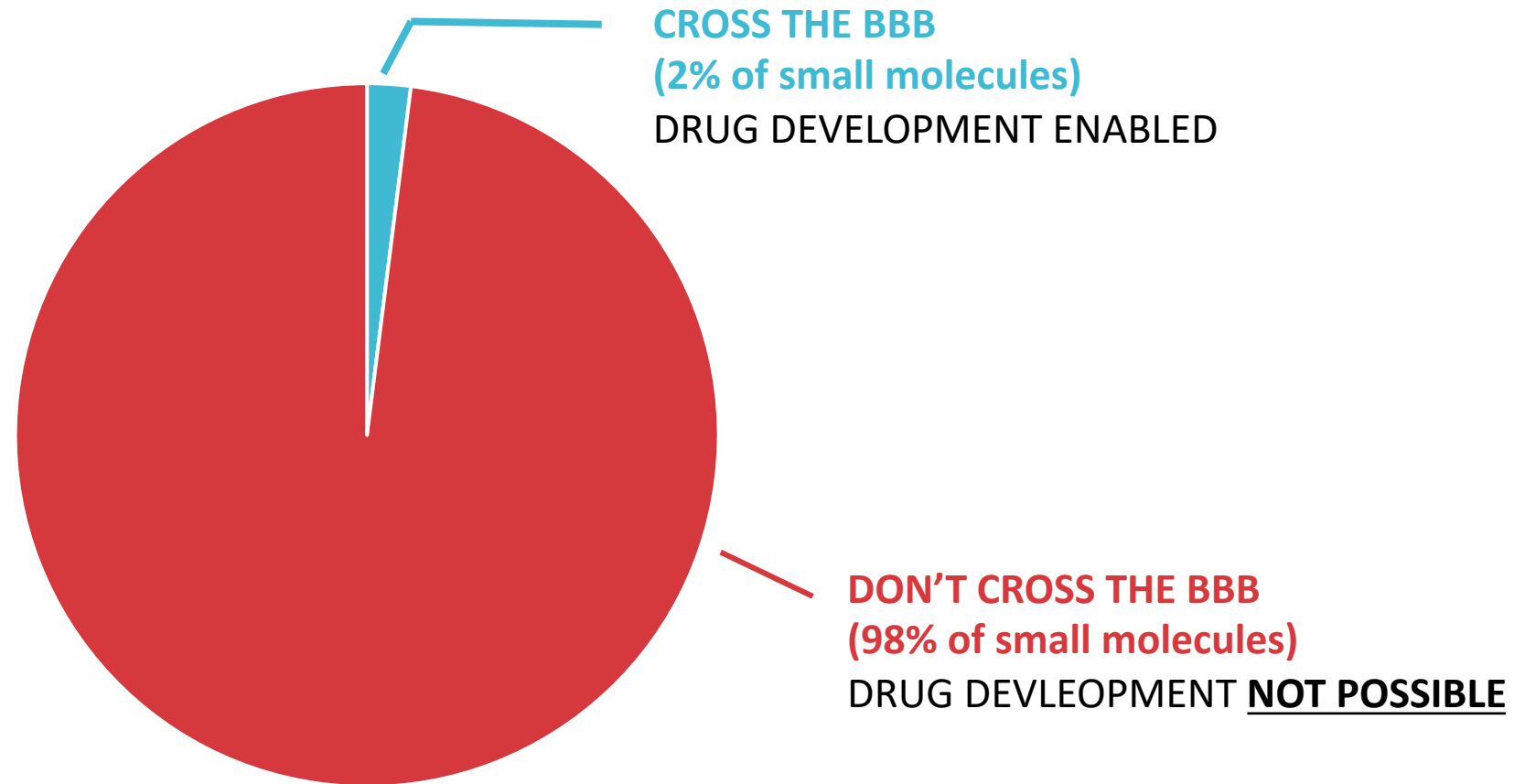
05/29/2024

Yale Innovation Summit 2024

Non-Confidential

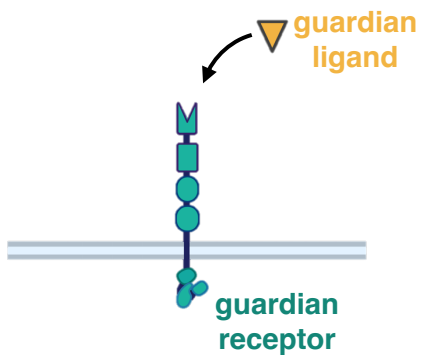
# THE BBB – AN OBSTACLE FOR DRUG DEVELOPMENT

>98% OF DRUGS  
CANNOT CROSS  
THE BBB

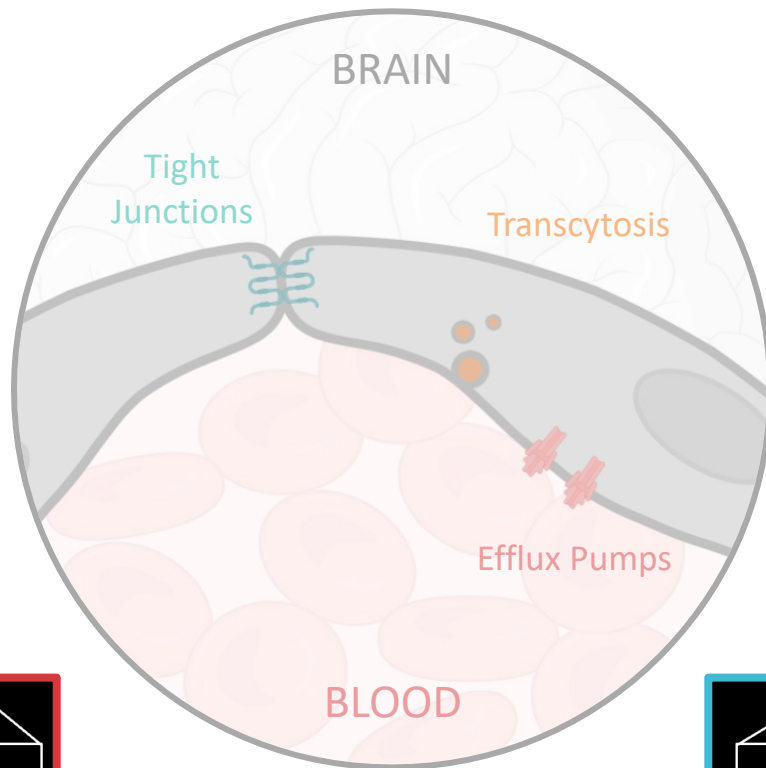


# OUR DRUG CONTROLS THE MASTER SWITCH FOR THE BBB

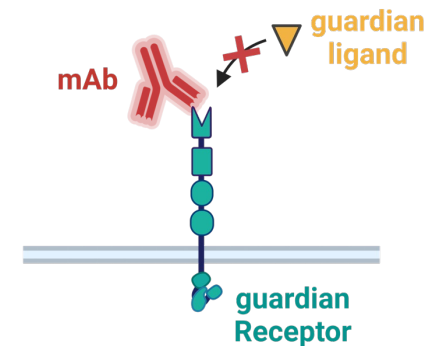
“normal” guardLig signaling



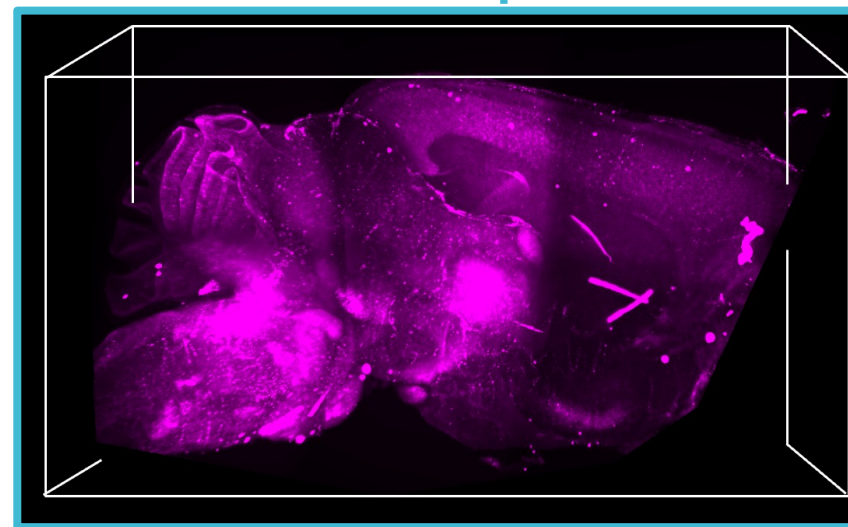
→BBB closed



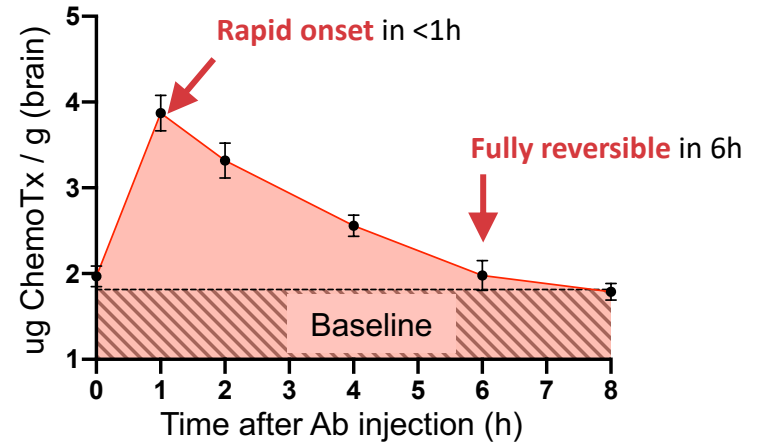
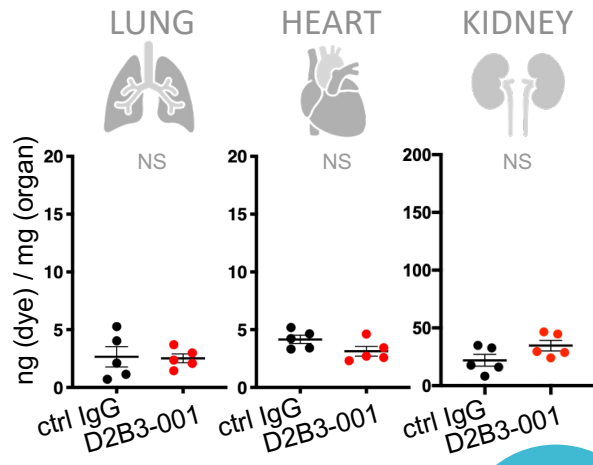
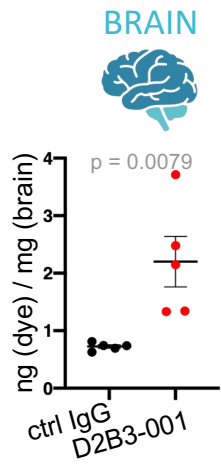
D<sup>2</sup>B<sup>3</sup>-01\*



→BBB open



\* Multi-jurisdictional patent protection (composition of matter and methods)



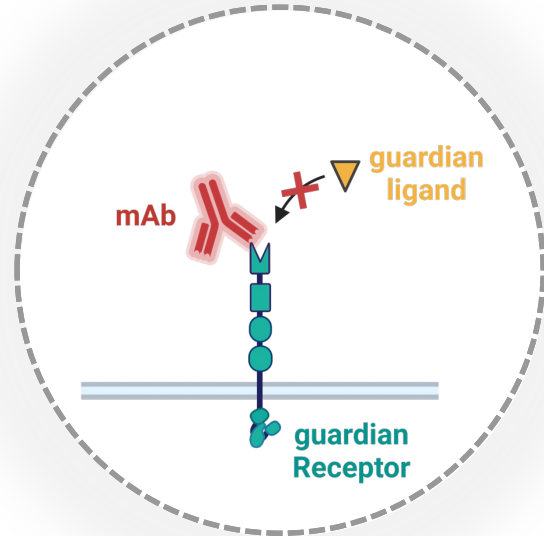
**BRAIN SPECIFIC**



**CUMULATIVE**



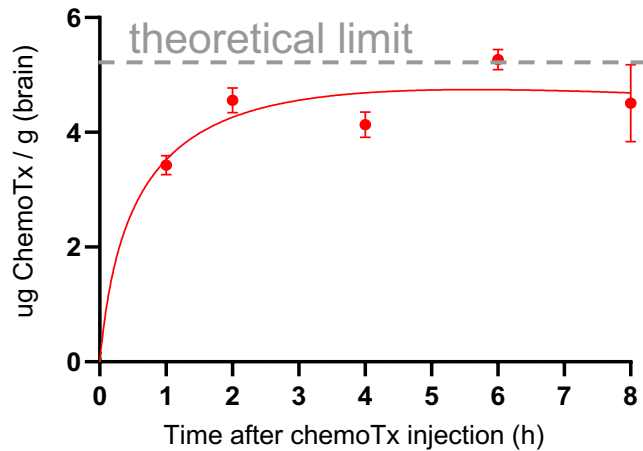
**D<sup>2</sup>B<sup>3</sup>-01**



**TRANSIENT AND REVERSIBLE**



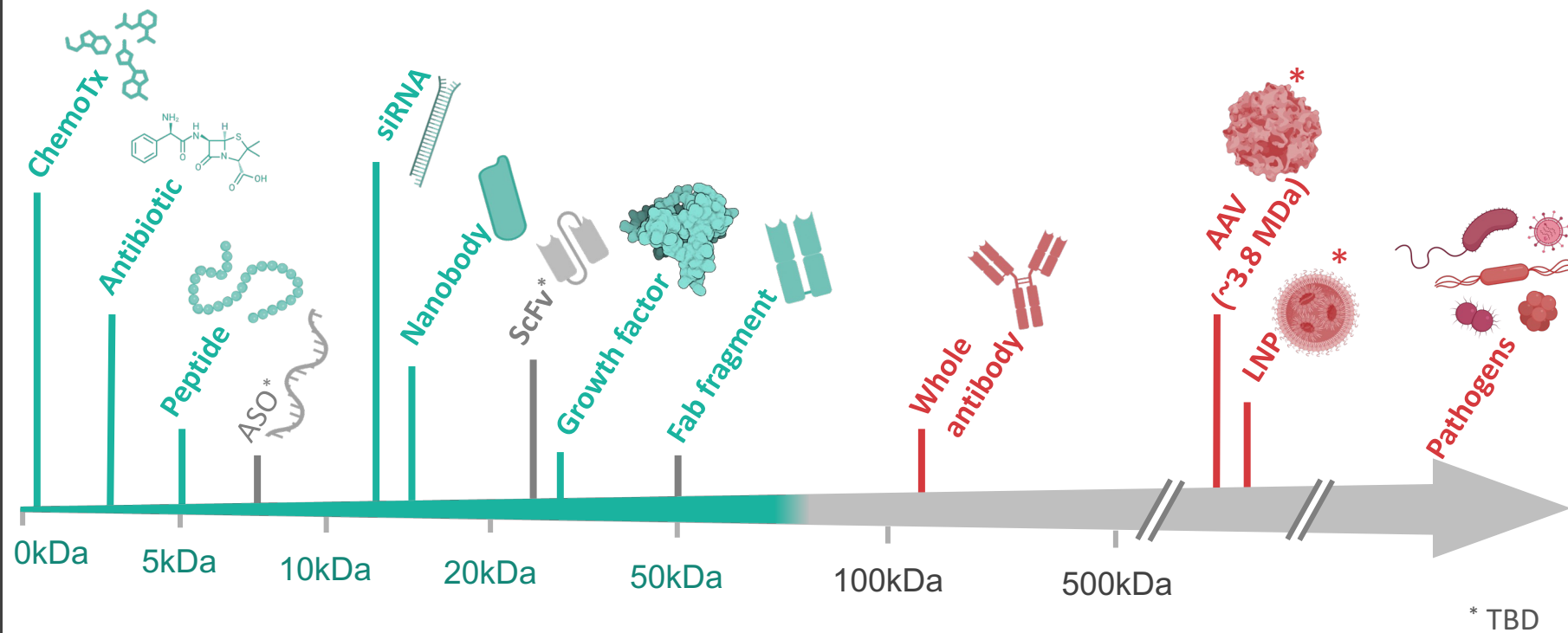

**SAFE**




- guardR pathway disruption **well tolerated in humans**
- low immunogenicity** (human IgG2)

# D<sup>2</sup>B<sup>3</sup>-001 DELIVERS ACTIVE MOLECULES OF UP TO 70kDa


D<sup>2</sup>B<sup>3</sup> delivery size range: 0 - 70 kDa


**Brain Tumors**  
(chemoTx)




**Brain Infection**  
(antibiotics, anti-fungals, metronidazole)




**Chronic pain**  
(analgesics)



**Neurodev. disorders**  
(ALS, Prader Willi, Alan Herton Dudley Syndrome, Angelman, ...)



**Neurodeg. disorders**  
(AD, Parkinsons, Huntingtons,...)

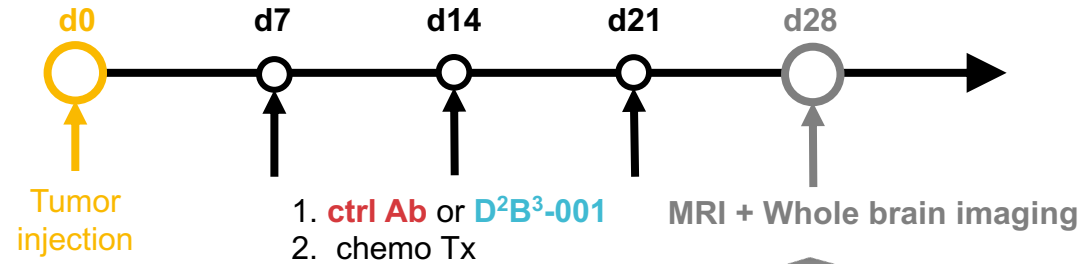


**Brain Imaging**  
(i.e. amyloid, cancer)

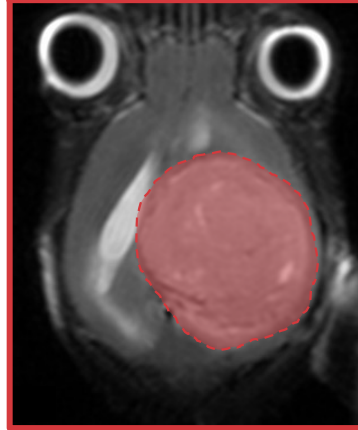


# BRAIN CANCER

## D<sup>2</sup>B<sup>3</sup>-001 ENABLES CHEMO-Tx TREATMENT OF GLIOBLASTOMA IN MICE

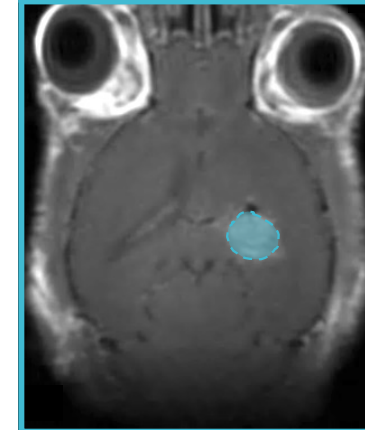


Ctrl Antibody +  
Chemo-Tx



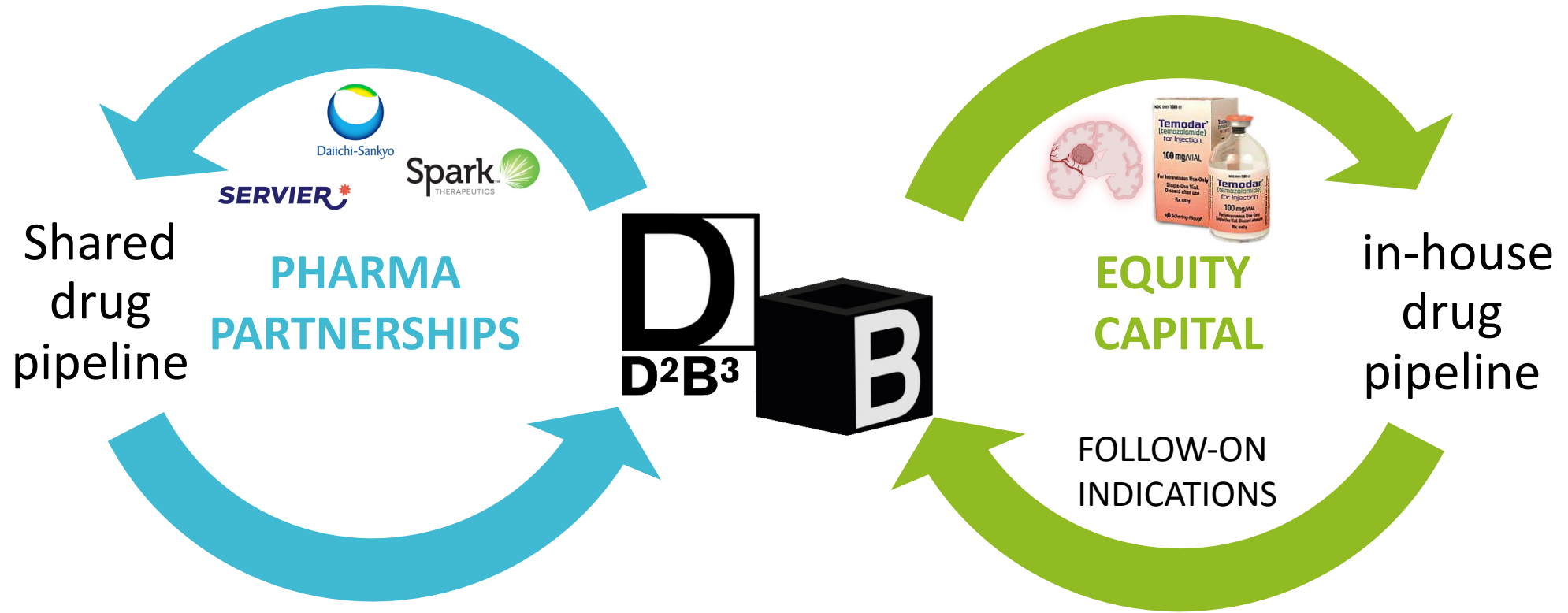
- Uncontrolled tumor growth
- High lethality

D<sup>2</sup>B<sup>3</sup>-001 +  
Chemo-Tx



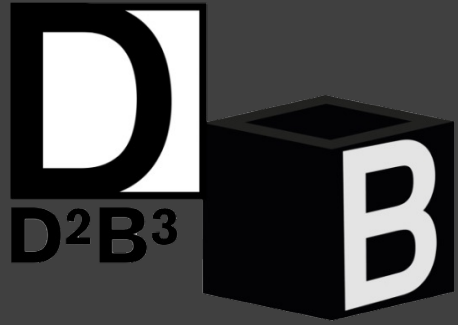
- Drastically reduced tumor growth
- Increased survival

# D<sup>2</sup>B<sup>3</sup> BUSINESS STRATEGY



## Raising \$15M

- 24 months runway
- CMC
- IND in < 18months
- Initiate Ph1/2 clinical trial



# Drug Delivery through the Blood Brain Barrier



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## WE ARE D<sup>2</sup>B<sup>3</sup>



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**Kevin Boyé, PhD**  
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Blood Brain Barrier expert



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KOL: FUS-mediated  
BBB opening