



BRAIN-TAG: Precision Brain Therapy Delivery by Artificial Targets



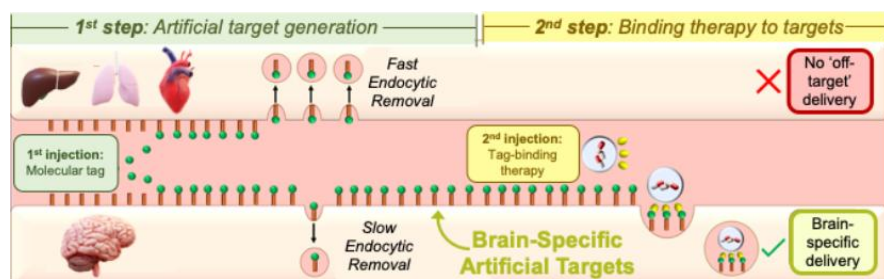
CHALLENGE

- Current brain delivery strategies employ 'natural targets' found on the vasculature of both the brain and peripheral organs
- Such strategies have inherent brain-specificity limitations, leading to 'off-target' therapy delivery to e.g. the heart, lung and liver



ASSET

- Our technology asset is a **novel delivery strategy** which exploits the slower endocytic rate of the brain endothelium to generate artificial targets specifically on the brain vasculature.
- By applying this two-step approach, engineered therapies consequently bind to the artificial targets and are **directed specifically to the brain** with no increased peripheral accumulation



MARKET

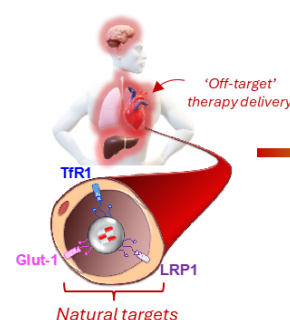
Drug Delivery Across Blood Brain Barrier (BBB) Market size is forecast to increase from **\$2.3 Billion in 2026** to **\$3.5 Billion in 2034** at a **CAGR of 5.6%**. The technology would have applications in highly prevalent diseases such as Alzheimer, Brain Cancer, Epilepsy, Hunter's Syndrome, Multiple Sclerosis, and Parkinson.

ASSET VALUE

- ❖ Increased brain specificity of therapy delivery
- ❖ Decreased off-target accumulation in peripheral organs
- ❖ Lower administration doses
- ❖ Reduced detrimental side-effects
- ❖ Enhanced safety profile

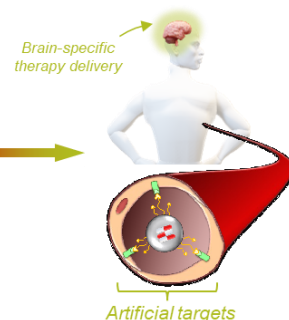
Problem

High **unspecificity** of brain delivery strategies



Solution

Brain Targets Artificially Generated (Brain-TAG)



Team

Daniel Gonzalez Carter- Scientific Leader IBEC
Giuseppe Battaglia – Scientific advisor IBEC
Eduardo Salas – Head of Tech Transfer

Stage of Development

- Technology platform demonstrated in-vitro
- Proof-of-concept in animal models
- Identification of lead compounds (peptides)

More information:

Gonzalez-Carter et al, 2020, PNAS

Porro et al, 2023, Fluids Barriers CNS

Exploitation Plan

- Spin off creation
- Business-to-Business model
- Patent licensing for technical co-development of brain therapies

Intellectual Property Status

- Protection: Patent
- Priority application filed in June 2023
- Current status : National phases (US, EU)
- Owners: IBEC

USES

- Pathologies: Alzheimer's Disease – Parkinson Disease; Brain Cancer; Epilepsy
- Therapies: Antibodies, xRNA, Chemotherapy
- Carriers: Liposomes, Nano-micelles, engineered proteins