

## CASE STUDY

# Exploring a conjugate that may hold potential as an Alzheimer's treatment

Pre-clinical study



### OUR CLIENT

Our client, an academic research group, needed to explore the *in vivo* therapeutic potential of a novel peptide-antibody conjugate to diminish the amyloid burden and treat Alzheimer's disease.

The client already obtained promisor *in vitro* results and need to complement them with an *in vivo* approach



### GOALS

- ✓ Check the ability of the conjugate to cross blood-brain-barrier (BBB).
- ✓ Evaluation of TAU and APP levels after treatment with the conjugate.
- ✓ Evaluation of the efficacy of peptide treatment in older animals with evident senile plaques and neurofibrillary tangles.



### STRATEGY

Use a relevant *in vivo* model of the Alzheimer's diseases to confirm and obtain significant data.

Analyzing results and providing clients with strategic insights to enhance their chances of obtaining better results and reach the pharmaceutical market.

## MAIN QUESTION

Is the potential therapeutic agent efficient in targeting Alzheimer's disease?

### Our Advantages

- ✓ **Access to a team of specialists** with a deep understanding of Alzheimer's disease pathology, ensuring a comprehensive evaluation of the therapeutic agent's efficacy.
- ✓ **Assistance in designing a robust and efficient experimental protocol**, maximizing the scientific value of the study while minimizing unnecessary complexities.
- ✓ **Continued support** in the interpretation of study results and assistance in **planning subsequent phases or adapting strategies** based on the outcomes.

# APPROACH

## ANIMALS PROPOSED



### APPswe/PS1dE9 mice

Transgenic mice that show increased amyloid plaque deposition with age along with deficits in cognitive tasks and episodic-like memory tasks.



### 3xTg-AD mice

Transgenic mice that may be useful for studying plaque and tangle pathology associated with synaptic dysfunction and Alzheimer's disease.

**Animal model chosen by the client**

## EXPERIMENTAL DESIGN

10 animals per group

Non transgenic



PBS

3x-Tg-AD



PBS

3x-Tg-AD



Conjugate

Intraperitoneal Injection

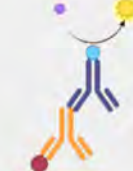
IP injection

Evaluation

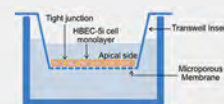
Cognitive Behaviour



APP and Tau levels



BBB Translocation



# ANALYSIS/READOUTS

- ✓ Cognitive behaviour
- ✓ Neurogenesis
- ✓ Neuroinflammation
- ✓ Evaluation of A $\beta$  plaques
- ✓ Neuronal communication
- ✓ Neurofibrillary
- ✓ Total Tau and pTau levels
- ✓ Quantification of A $\beta$  plaques

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