

1. Project aims

- How protein aggregation influences cell fitness?
- How this aggregation is selected in a population?
- How this selection can be modulated?

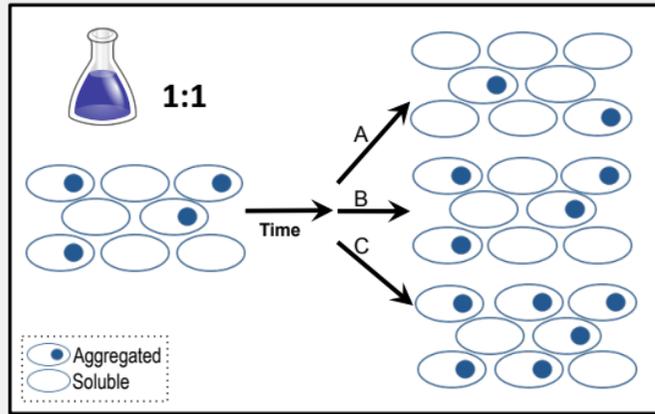
2. In vivo System

Aggregation Tag + **Enzymatic Activity**
Adjustable aggregation + *Adjustable benefit*

Enzymatic activity:
Substrate1 + Enzyme = Product1
Substrate2 + Enzyme = Product2

Culture composition	Enzyme	Aggregation
Medium + Substrate1	→ Essential	Noxious (A)
Medium + Product1	→ Not-essential	Neutral (B)
Medium + Substrate2 ^(*)	→ Toxic	Beneficial (C)

3. Simulation



4. Quantification

$$\text{Aggregation selection} = \text{Loss of function}^A + \text{Misfolding}^B + \text{Gain of function}^C$$