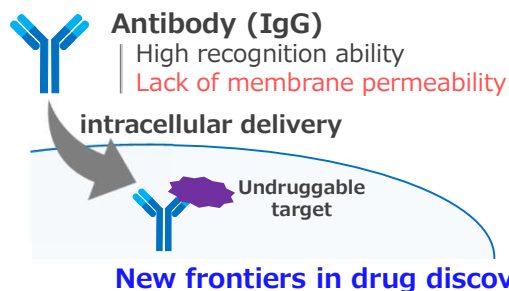


# Coacervates for Cytosolic Infusion of IgG

- Cytosolic delivery of functional IgG for intracellular undruggable targets -

## PROBLEM



### Limitations of Existing Delivery Technologies

Low delivery efficiency

Severe adverse effects

Poor targeting ability

### Key Features of the Target Technology

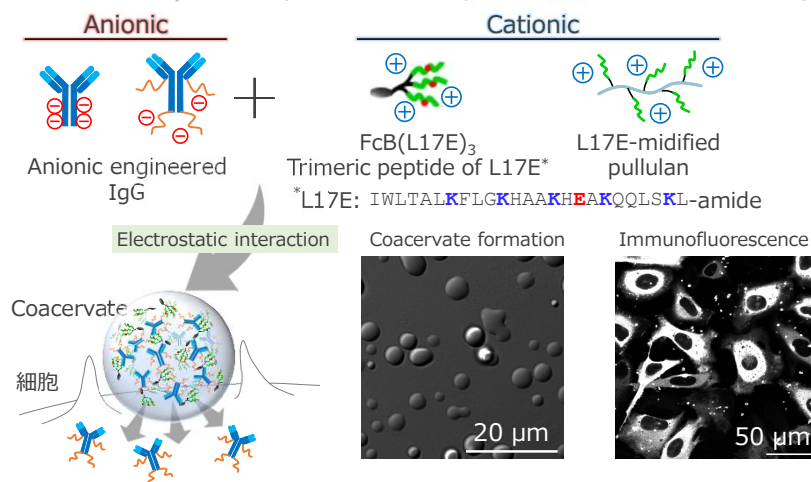
High delivery efficiency

Low cytotoxicity

Localized delivery

## SOLUTION - SUMMARY OF THE INVENTION -

**Coacervate** | droplets and condensates formed via liquid-liquid phase separation (LLPS) driven by electrostatic interactions attracting attention as drug delivery systems due to their high drug retention capacity and stability.

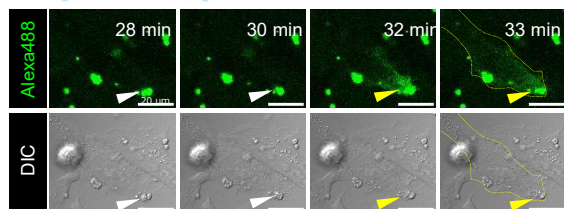


### Key Feature of Technology

- ✓ Formed simply by mixing two components: cationic peptide multimers and negatively charged modified IgG
- ✓ Enables intracellular delivery of antibodies by simple addition of coacervates to cells
- ✓ Delivery efficiency can be improved by selecting different types of cationic peptides
- ✓ Enables rapid intracellular delivery

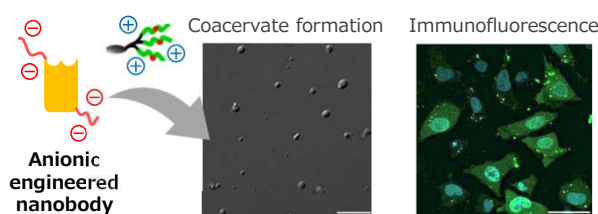
## ADVANTAGES over CURRENT TECHNOLOGIES

### ➤ Rapid Delivery: Infusion from coacervates

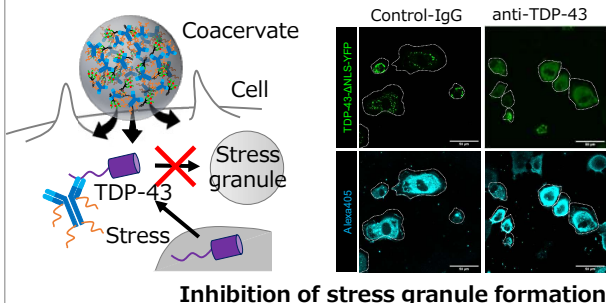


Infusion within minutes after cell contact

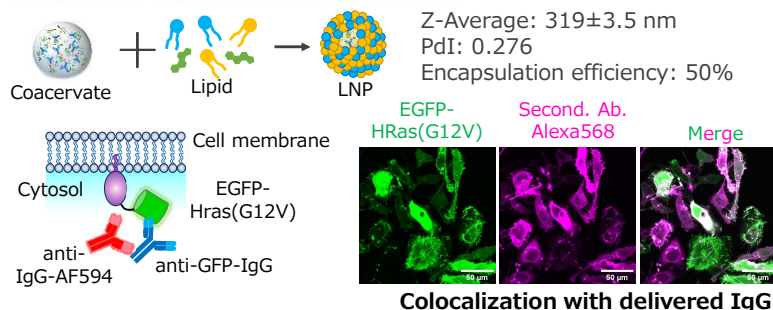
### ➤ Nanobody Delivery: Expanded versatility



### ➤ Functional IgG Delivery



### ➤ Lipid Nanoparticles Encapsulation



## APPLICATION

- ✓ Cellular function analysis via intracellular antibody delivery
- ✓ Cancer therapy by inhibiting intrinsically disordered proteins and protein-protein interactions

Inventor: Yoshimasa Kawaguchi

Licensable Patent Int. Pub. No. : WO2024/181580

Provisional patent applications: JP2024-143304, JP2024-175274, JP2024-175277

and expected those PCT applications

Contact: IP Management & Licensing Group, Department of Intellectual Property Management, JST  
TEL) +81-3-5214-8486 email) [license@jst.go.jp](mailto:license@jst.go.jp) URL) [www.jst.go.jp/chizai/](http://www.jst.go.jp/chizai/)



[https://www.jst.go.jp/chizai/news/doc/bio2025\\_kawaguchi.pdf](https://www.jst.go.jp/chizai/news/doc/bio2025_kawaguchi.pdf)