

Our Technology
for Your Innovations

Cell-free Antibody Synthesis

Cell-free Protein Synthesis (CFPS) offers a rapid (2-3 h) and parallelizable system for diverse antibody formats, including fully assembled IgGs, scFvs and nanobodies. Synthesized antibodies can be directly used in immune and cell-based assays without purification, making CFPS particularly suited for high-throughput screening and diagnostics. Unlike classical in vivo protein expression, CFPS does not require time-consuming cloning steps, and its open nature allows for easy manipulation of reaction conditions and high-throughput applications. Additionally, the system enables site-specific modification of antibodies, facilitating the generation of antibody-drug conjugates (ADCs) through the incorporation of non-canonical amino acids.

TRL-Level: 5
Open for R&D Collaboration

Industry



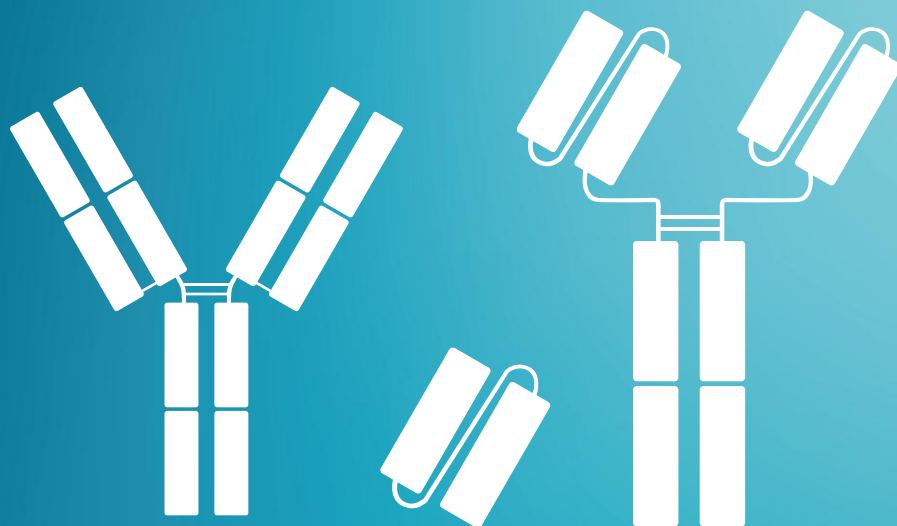
Biotech



Diagnostics



Pharmaceuticals



Unique Selling Points

Customizable
for various
antibody
formats

Antibody
synthesis in
2-3 hours

Site-specific
modifications
for ADCs

Scale
adaptable to
96 and 384
well plates

Ideal for high-
throughput
screening

No
purification,
directly
assay-ready

Applications

Antibody Production and Functionalization

- Synthesis of IgGs, scFvs, and nanobodies
- Site-specific modification with non-canonical amino acids
- Coupling of fluorophores and payloads
- Synthesis of antibody-drug and antibody-toxin conjugates
- Functionalized antibody formats / nanobodies for diagnostics and imaging

Drug Discovery and Screening

- High-throughput screening of antibodies & drug candidates
- Optimization of binding properties through parallel synthesis
- Rapid development of new antibody formats

Further information

Stech et al. 2017, *Sci Rep*, 7(1): 12030
Krebs et al. 2022, *Int. J. Mol. Sci.*, 23: 13697
Behrens et al. 2024, *ACS Omega*, 9(33): 35374-35383
Haukeis et al. 2022, *Front Bioeng Biotechnol*, 10: 896763

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