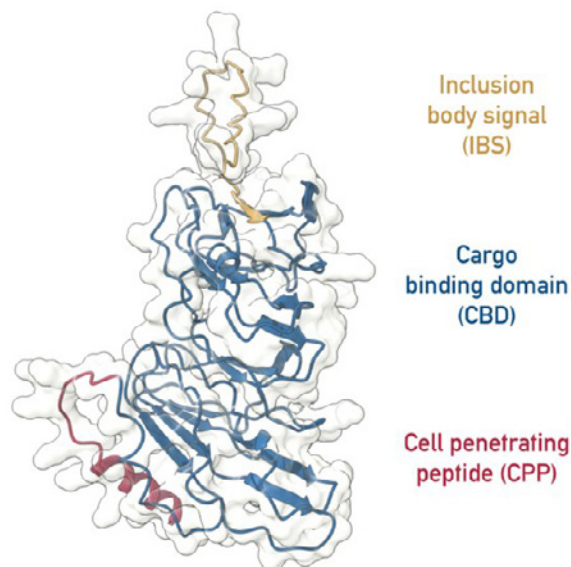


BPP BIOPORTIDE™

A novel multi-functional designer protein for nucleic acid delivery into bacterial cells.

Minimum preparation, easy workflow, fast results.

**PRODUCTION INNOVATION – Inclusion body signal**

Producing larger quantities, with constant quality, and at a competitive price – based on unique and patented green peptide production platform.

FUNCTION INNOVATION – Nucleic acid-binding domain

Using a proprietary cargo binding domain to deliver any common nucleic acid into various organisms and cell types.

PRODUCT INNOVATION – Cell-penetrating peptide domain

The uptake mechanism is triggered by the cell penetrating peptide which is specifically designed for certain cell wall compositions – **already >20 different ones available!**

THE PEPTIDE ADVANTAGE**Transformation of cyanobacteria and other (exotic) organisms**

- Simple and short protocol, adaptable and compatible with organism-specific cultivation conditions
- No chemical or electro competent cells
- Less cell stress
- Large plasmids (>10 kb)
- Small amounts of DNA (nanogram) and fewer cells needed
- High transformation efficiency & frequency
- Short/long, linear, circular, single/double stranded DNA/RNA
- Low total cost of experiment

OPTIMIZATION POTENTIAL**Transformation of cyanobacteria and other (exotic) organisms**

- Conjugation is time consuming and difficult, low transformation efficiency
- For many organisms lengthy protocols in general
- Many strains and organisms are not transformable at all
- Costs for transformation reagents and pre-treatment of cells

AG Forchhammer, University of Tübingen

Growth in BG 11 medium to mid-log phase, centrifugation of 50 ml of cells, resuspended in 2 ml BG 11

Preparation of BPP Bioportide™ / nucleic acid complex (10 : 1 ratio)

Incubation of 50 µl cells with complex at RT for 10 min

Recovery: Add 950 µl BG 11, incubation for 1 h, 6 h, 24 h; transfer to HATF membrane on BG 11 agar plates

	Synechocystis	Synechococcus	Synechocystis	Synechococcus
	linear integrative plasmid (DNA)		linear integrative PCR product (DNA)	
size [bp]	6038	~7000	3084	2447
amount of nucleic acid [ng]	10	10	10	10
amount of BPP Bioportide™ [ng]	100	100	100	100
time of incubation after contact complex/cells [h]	1 h, 6 h, 24 h	1 h, 6 h	1 h, 6 h	1 h, 6 h
# CFU	~300	~250	~5	~25
colony PCR positiv	yes	yes	yes	yes

Others about BPP Bioportides™

"As a Professor of Microbiology, I am enthusiastic about this new gene delivery tool! It has revolutionized our ability to transform previously challenging target organisms like Anabaena or Nostoc. The benefits in terms of time savings, reduced DNA usage and improved efficiency are remarkable, opening up new research possibilities. I highly recommend BPP Bioportides™ to researchers facing similar challenges."

Prof. Dr. Karl Forchhammer
University of Tuebingen, Department of Microbiology

**Successful Gene Delivery:
Organisms & Cell Types**

- *Anabaena*, *Nostoc*, *Synechocystis*, *Synechococcus*, *Hydrogen-oxidizing bacteria*, *E. coli*
- Tobacco plant

Successful Gene Delivery: Nucleic Acid Types

Standard circular plasmid, circular plasmid, linear DNA (for genome integration), microRNA (for gene silencing)



YOU HAVE THE VISION,
WE HAVE THE SUBSTANCE.

Part of Europa Biosite

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