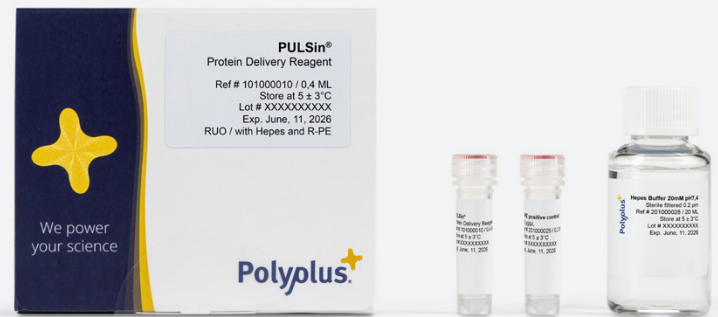


PULSin®

Protein, Antibody, and Peptide Transfection Reagent



Product Information

The delivery of protein and antibody using PULSin® represents a powerful approach for functional studies. With PULSin® you can target intracellular proteins with antibodies in living cells without a fixation step, as well as study the function of a protein by controlling the expression level and the expression time course.

PULSin® is composed of a proprietary cationic amphiphile molecule that forms non-covalent complexes with proteins and antibodies. Once formed, complexes are internalized via anionic cell-adhesion receptors and are released into the cytoplasm where they disassemble. The process is non-toxic and delivers functional proteins.

Features and Benefits

- **Unique:** One reagent for protein, antibody, and peptide delivery into mammalian cells
- **Optimized:** Efficient delivery in live primary cells and difficult-to-transfect cells
- **Innovative:** Easy to use alternative to chemical conjugation and viral transduction

Introduction

Relevant Applications

- Drug discovery
- Functional studies
- Proteins targeting in living cells

Relevant Process Steps

- Proteofection
- Protein delivery
- Transfection of proteins and peptides

Technical Specifications

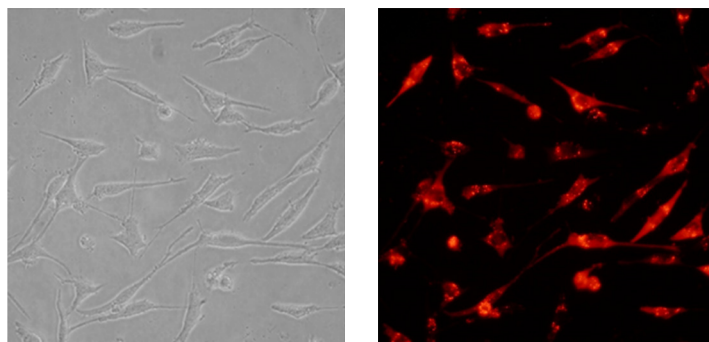
Molecule delivered	Protein, antibody, peptide
Cell Types	Adherent and suspension cells grown in presence of serum
Number of transfections	0.4 mL of PULSin® delivery reagent is sufficient to perform 25 delivery experiments in 6-well plates and 100 experiments in 24-well plates
Storage	Store PULSin® at 5 °C ± 3 °C. Do not freeze. Expiry date is indicated in the certificate of analysis and on the product
Provided with	Hepes Buffer (20 mM) for protein dilution; R-Phycoerythrin used as a positive control

Capabilities

▪ PULSin® Enables Delivery of Protein Irrespective of Its Size

PULSin® is able to deliver R-phycoerythrin, a fluorescent protein (240 kD), to the cytoplasm of up to 98% cells. The protein is evenly distributed in the cytoplasm and excluded from the nucleus due to its large size.

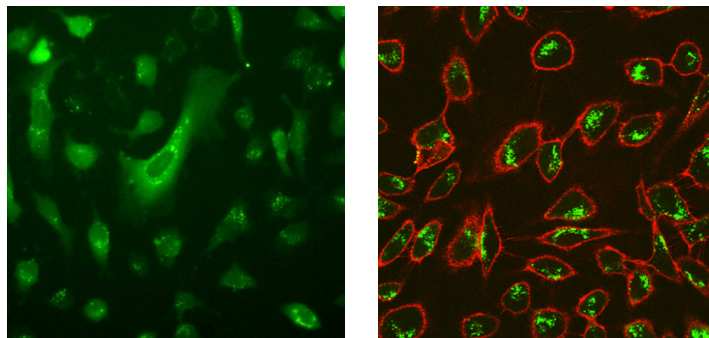
Figure 1: PULSin®-Mediated Intracellular Delivery of R-Phycoerythrin to NIH-3T3 Cells



▪ PULSin® Efficiently Delivers Antibodies in Live Cells

Antibodies are successfully delivered in mammalian cells and able to recognize their target protein inside the cytoplasm. PULSin® enabled the delivery of FITC-labeled anti-alpha-tubulin to the cytoplasm of high percentage of HeLa cells (85%). Similarly, anti-giantin Alexa Fluor® 488 was delivered to the cytoplasm of 98% of live HeLa cells, labeling the Golgi apparatus.

Figure 2: Delivery of Fluorescein-Conjugated Anti-Alpha-Tubulin and Alexa Fluor® 488 Anti-Giantin Antibodies Using PULSin® to Target Respectively the Cytoplasm and the Golgi Apparatus of HeLa Cells



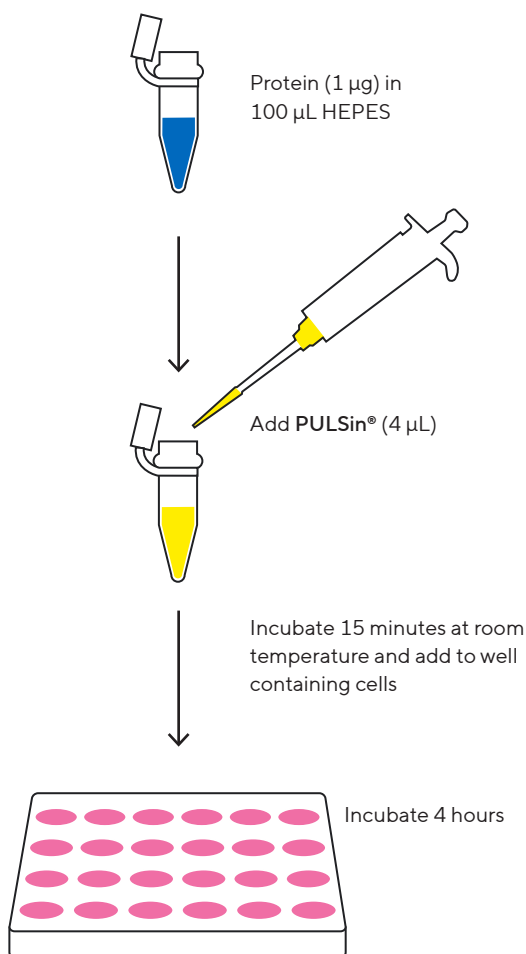
Note. Cells were visualized by confocal microscopy 24 hours post-transfection.

▪ **Simple Protocol for Successful Protein Delivery**

PULSin® will save you time and efforts compared to other techniques using viral transduction or chemical conjugation. PULSin® reagent is ready-to-use and provided with a dilution buffer and a fluorescent control protein (R-phycoerythrin).

The protocol is fast: simply add the reagent to the protein, incubate and add to the cells. Cells can be analyzed starting 4 hours post-delivery.

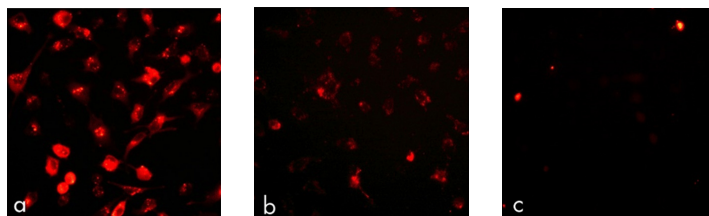
Figure 3: PULSin® Reagent is Easy to Use



▪ **Easy to Use Alternative to Chemical Conjugation and Viral Transduction**

Comparison of PULSin® with two other protein delivery reagents shows a higher efficiency of protein delivery. Moreover, the amount of protein delivered per cell is higher with PULSin® as measured for R-phycoerythrin protein and for FITC-alpha-tubulin antibody (cf additional data).

Figure 4: Comparison of PULSin® (a) Efficiency with Two Other Protein Delivery Reagents (b-c)



Note. R-phycoerythrin (1 µg) is complexed with each reagent according to the manufacturer's protocol. Complexes are added to HeLa cells and observed by fluorescence microscopy over 24 hours.

Ordering Information

Item	Description	Package Volume Quantity Size	Order Number
PULSin® 0.4 mL	Protein, antibody, and peptide transfection reagent provided with positive control (R-phycoerythrin) and HEPES dilution buffer	0.4 mL Vial (+ 20 µg R-phycoerythrin powder + 20 mL HEPES dilution buffer)	101000010

0.4 ml of PULSin® protein delivery reagent is sufficient for 25 delivery experiment in 6-well plates. Bulk quantities are available upon request.

Germany

Sartorius Lab Instruments
GmbH & Co. KG
Otto-Brenner-Strasse 20
37079 Goettingen
Phone +49 551 308 0

USA

Sartorius Corporation
565 Johnson Avenue
Bohemia, NY 11716
Phone +1 631 254 4249
Toll-free +1 800 635 2906

 **For further information, visit**
[sartorius.com](https://www.sartorius.com)