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FRONTIERS IN LIFE SCIENCE

Research Use Only

JAPAN MADE QUALITY

Going to cytoplasm, not trapping in endosome!

ProteoCarry

<Protein Transfection Reagent>

For more information : http://www.funakoshi.co.jp/exports_contents/80968

ProteoCarry is a new peptide-based, protein transfection reagent.

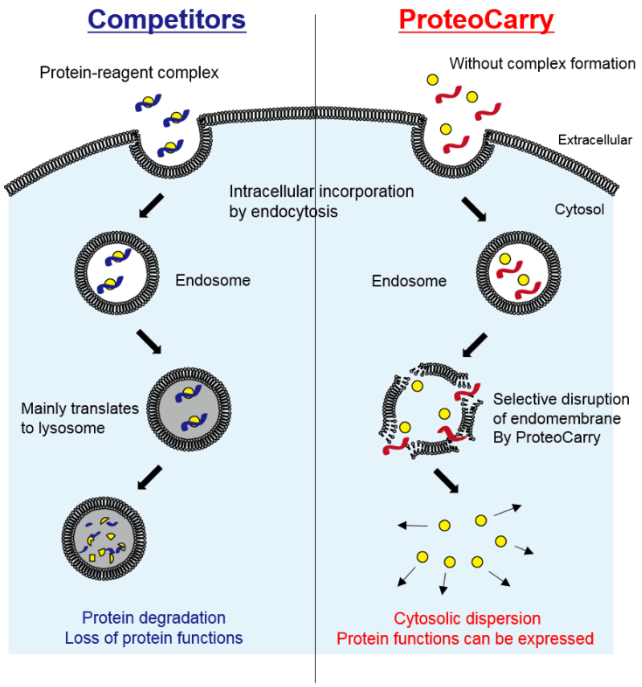
Background of protein transfection reagents and advantage of ProteoCarry

Principle of conventional protein transfection reagent

Proteins transfected by conventional reagents generally form complex with proteins and incorporated to cells by endocytosis. After that, the complex breaks endosomal membrane and delivered to cytoplasm.

Weak point of conventional protein transfection reagent

These reagents have weak activity for disrupting membranes. Therefore, such trapped proteins cannot escape from endosome. Trapped proteins are considered to be transported to lysosome proteolysis system.



Advantage of ProteoCarry

- ProteoCarry has a superior transfection efficiency, by its strong and selective endosomal membrane-disrupting activity.
- ProteoCarry does NOT require formation of protein-reagent complex before use, which may interfere with biological activity of the protein. With ProteoCarry, proteins can be transfected with its function retained.
- Biopolymers or bio-macromolecules can also be transfected to cells.

Features

- Selective endosomal membrane-disrupting activity.
- No pre-incubation
- Rapid transfection - ~1 hour
- Serum (< 10% FBS) does not affect transfection efficiency.
- Guide of assay numbers for ProteoCarry : See right table
- Validated cell types : HeLa, SW280, COS7, NIH3T3 and HUVEC

Scale	Assays
6 well	14 assays
12 well	28 assays
24 well	56 assays
48 well	140 assays
96 well	280 assays

Product Information

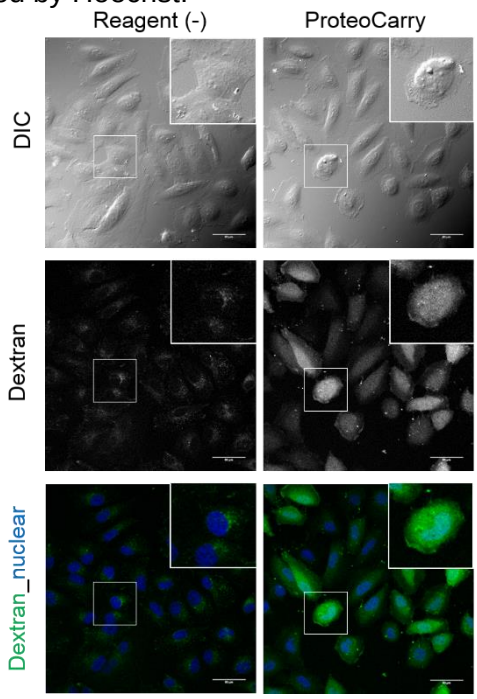
Kit Components :
A : ProteoCarry 4 mg
B : FITC-dextran (positive control) 2 mg

Product Name	Size	Catalog #	Storage
ProteoCarry	1 set	FDV-0015	-20 ℃

Application Data

Positive Control (FITC-dextran)

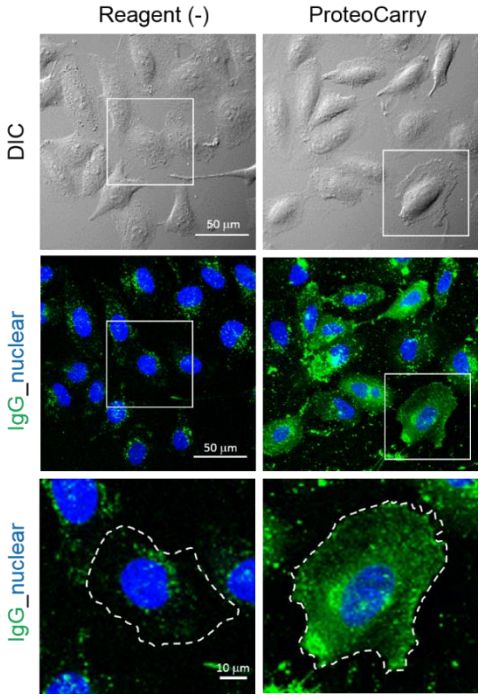
200 µg/mL FITC-dextran and ProteoCarry (in alpha-MEM) was added to HeLa cells (80% confluency) and incubate for 1 hour. After washing, nucleus was stained by Hoechst.



(Left) Only FITC-dextran was added.
Signal was not found in cytoplasm.
(Right) FITC-dextran + ProteoCarry were added.
Signal was distributed in cytoplasm widely.

Fluorophore labeled IgG

250 µg/mL Fluorophore labeled IgG and ProteoCarry (in alpha-MEM) was added to HeLa Cells (80% confluency) and incubate for 1 hour.
After washing, nucleus was stained by Hoechst.



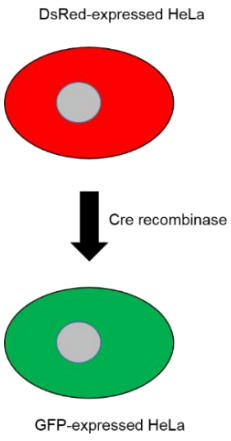
(Left) Only antibody was added.
Signal was not found in cytoplasm but stayed in endosome or lysosome.
(Right) IgG + ProteoCarry were added.
Signal was distributed in cytoplasm widely.

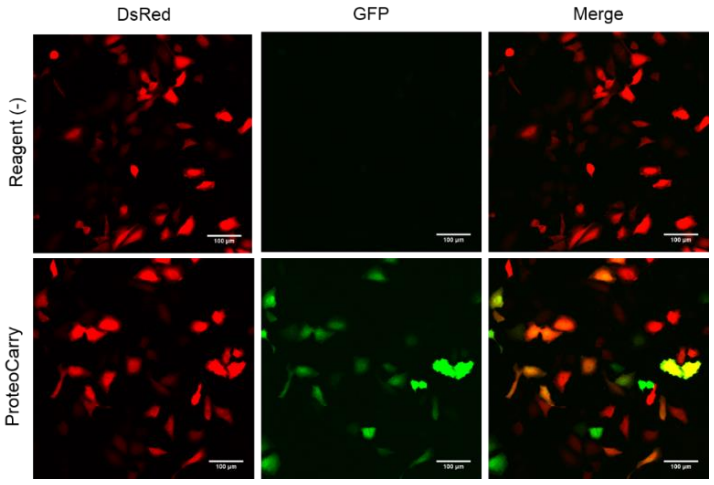
※ When detecting fluorescent signal in cytoplasm, signal will be diluted as volume of cytoplasm is bigger than endosomes.
※ When detecting cytoplasmic signal of fluorescence, high concentration fluorophore labeled proteins should be added.

Transfection of Cre recombinase

HeLa cells (holding Cre recombinase-responsive DsRed/GFP expression vector) were incubated with 10 µM of Cre recombinase and ProteoCarry in alpha-MEM for 1 hour. After washing by PBS, cultured for 24 hours in a new medium.

Images on right indicate that ProteoCarry can transfect Cre recombinase with its enzyme activity.





NOTE

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