GeneCarry Super Transfection Reagent plus

Product information:
GeneCarry Super Transfection Reagent plus is a novel and highly efficient cationic polymer. It interacts with nucleic acids (including plasmids, siRNA, and oligonucleotides) to form a complex that delivers the nucleic acid into eukaryotic cells. It is suitable for most eukaryotic cell transfections and shows greater advantages in difficult-to-transfect cells (with significantly higher efficiency than currently available mainstream transfection reagents). Successfully transfected cell lines include: HeLa, HEK293T, 293T, HUVEC, HepG2, HEK293, CNE2, SW480, HEK293FT, HT29, Raw264.7, THP-1,HCT116.

Components	Cat.No.: AN013-1	Cat. No.: AN013-2	storage
GeneCarry Super Transfection Reagent plus	0.25ml	0.5ml	2-8℃

⚠ This product is intended for use by trained laboratory personnel only. It is important to follow proper laboratory safety protocols when handling this product. This includes wearing appropriate protective eyewear, clothing, and gloves to reduce the risk of exposure. In the event of contact with skin or eyes, rinse immediately with copious amounts of water and seek medical attention if necessary.

Features:

1. GeneCarry Super Transfection Reagent plus has low cytotoxicity. The medium can be changed with fresh culture medium after 4-6 hours after transfection, or without changing it.
2. It maintains high transfection efficiency in high-density cells, with high transfection efficiency even above 90% cell density. High-density cell transfection helps to increase overall protein expression or amplify detection signals, while reducing the damage of transfection reagents to the cells.
3. It is not affected by serum, and the transfection complex can be directly added to complete culture medium, reducing cell damage during serum removal.
4. The amount required is minimal. For a 24-well plate, typically 1-2 μl is used per transfection, and 1 mL can be used for 500-1000 transfections; for a 6-well plate, 4-8 μL is used per transfection, and 1 mL can be used for about 125-250 transfections.

Notes:

1. GeneCarry Super Transfection Reagent plus can be used for transfection with serum-containing culture medium, and it is not necessary to change the medium before or after transfection. However, **when preparing the transfection complex, it is necessary to dilute DNA/RNA and transfection reagents in serum-free culture medium, as serum may affect the formation of the complex.**
2. It maintains high transfection efficiency even in high-density cells, and it is recommended to use a cell density greater than 90% to achieve higher protein expression.
3. Antibiotics can be used when plating the cells, but they should be removed by changing the medium before transfection.
4. Using high-purity DNA or RNA helps to obtain higher transfection efficiency.
5. **It should be stored at 4°C and should not be frozen.** It should be avoided to repeatedly open or leave it uncovered for a long time, to prevent lipid oxidation from affecting the transfection efficiency.
6. For the first-time use, it is recommended to optimize the DNA/RNA and GeneCarry dosage to obtain the best transfection efficiency. The ratio of DNA/RNA to transfection reagents is usually recommended to be 1:2-1:3, for example, using 0.5 μg DNA/RNA and 1-1.5 μL transfection reagent. When optimizing transfection efficiency by adjusting the ratio of GeneCarry Transfection Reagent, the DNA/RNA (μg): GeneCarry (μL) ratio is typically between 1:0.5-1:5.

Protocol:
(Example for DNA transfection in a 24-well plate, please refer to Table 1 for other instructions)

1. Cell Preparation

Adherent cells: Digest the cells with trypsin 12-24 hours before transfection, count the cells, and plate them at a density of 2-8×10^5 cells per well to achieve a cell density of 80-100% during transfection.
Suspension cells: On the day of transfection, plate 4-10 × 10^5 cells in 500 μL of growth medium in a 24-well plate before preparing the DNA complex.
Note: a. Antibiotics can be used when plating the cells, but remember to remove them before transfection.
b. High cell density still maintains high transfection efficiency, and it is recommended to use a cell density greater than 90%.

2. Preparation of Transfection Complex:

Dilute 0.5 μg of DNA with 50 μL serum-free medium and vortex to mix.
Dilute 0.6-2.5 μL of GeneCarry Transfection Reagent with 50 μL of serum-free medium. Incubate the diluted transfection reagent at room temperature for 2-5 min (mix with the diluted DNA within 30 min, too long incubation time will reduce the activity).
Note: a. If DMEM is used as the diluent for the liposome nucleic acid transfection reagent, the DNA mix must be mixed within 5 min.
b. The amount of transfection reagent used is affected by cell type and other experimental conditions. It is recommended to optimize the best use amount by setting a gradient during the first use.

3. Cell Transfection:

1.) Mix the diluted DNA and GeneCarry Transfection Reagent (total volume 100 μL) gently and incubate at room temperature for 20 min. The solution may become turbid at this time, but it does not affect transfection. The DNA-transfection reagent complex is stable at room temperature for at least 5 h.
2.) Add 100 μL of DNA-GeneCarry complex to the 24-well plate (400 μL of medium in the well) and shake the plate gently to mix. **Note: If transfection is required under serum-free conditions, replace the serum-containing**

medium with serum-free medium before adding the complex.

3.) Culture in a 37℃, 5% CO2 incubator for 18-48 h until transgenic expression analysis is performed, and the transfection complex does not need to be removed or the medium replaced. If necessary, the growth medium can be changed 4-6 h after transfection without reducing transfection efficiency.

Adjustment of Transfection System:

The amount of GeneCarry, DNA/RNA, cells, and medium used in different cell culture plates may vary. Please refer to Table 1 for specific instructions. For 96-well plate culture, there is no need to plate the cells one day in advance. The complex can be prepared directly in the culture plate, and the cell suspension can be added to the complex to reduce transfection time further.

Table 1. Amounts of transfection reagents, nucleic acid, and medium used in different culture plates. The table is for reference only. The specific amount is recommended to be optimized based on cell type and other conditions. The DNA (μg): GeneCarry Transfection Reagent (μL) ratio is recommended to be optimized between 1:0.5-1:5.

plate	Shared reagents		DNA transfection		RNAi transfection		RNA transfection	
	Final volume	Transfection complexes	DNA	Transfection reagent	RNA	Transfection reagent	RNA	Transfection reagent
96-well	100 μL	2×25 μL	0.1 μg	0.2-0.5 μL	5 pmol	0.25 μL	100ng	0.15-0.3μL
24-well	500 μL	2×50 μL	0.5 μg	0.6-2.5μL	20 pmol	1.0 μL	500ng	0.75-1.5μL
12-well	1 mL	2×100 μL	1 μg	2-4.5 μL	40 pmol	2.0 μL	1000ng	1.5-3μL
6-well	2 mL	2×250 μL	2-4 μg	5-10 μL	100 pmol	5 μL	2500 ng	3.75-7.5μL
60-mm	5 mL	2×0.5 mL	4-8 μg	10-20 μL	200 pmol	10 μL	5000ng	7-15μL
10-cm	15 mL	2×1.5 mL	12-24μg	30-60 μL	600 pmol	30 μL	15000ng	21-45μL

Shipping and storage:

Storage temperature should be between 2-8℃, and the shelf life is two years. **Do not freeze!!!**

Technical support:

If you have any questions or concerns, please don't hesitate to reach out to our support team at support@angneovo.no. Our knowledgeable and friendly team is available to assist you and ensure a positive experience with our product.

Disclaimer And Warranty:

This product is compliant with its relevant specifications and intended for its stated purpose. However, ANGENOVO AS does not provide any other warranty or guarantee regarding the product's description or quality. Any such warranties or guarantees are explicitly excluded to the fullest extent allowed by law. ANGENOVO AS will not be held liable for any special, incidental, indirect, multiple or consequential damages related to or arising from the use of this product. The liability of ANGENOVO AS will not be limited or excluded for death or personal injury caused by its negligence, fraud, or fraudulent misrepresentation or any matter where it would be illegal to exclude or restrict such liability.

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