Technical Note & Transfection Tips

Guidelines for successful plasmid DNA transfection using LipoJet™

Gene Expression

General Good DNA Transfection Practices

- Use a positive control such as GFP or LacZ reporter plasmid to assess transfection efficiency and optimize transfection conditions.

- Use high quality plasmid purification kits to obtain endotoxin free high purity DNA without RNA or protein contamination for higher transfection efficiency and improved reproducibility. Determine the DNA purity by measuring the OD 260/280 ratio, which should be between 1.7~1.9. Higher or lower ratios indicate impurities and should not be used in transfection experiments

- Use healthy cells. Passage cells at least twice after thawing to allow recovery before transfection, and use cells at low passage number (<16 passages). Discard cells if they have become overconfluent. Regularly check for contaminants: yeast, bacteria and mycoplasma.

- For long term storage, keep LipoJet™ Transfection Kit at 4°C.

Transfection Tips

- The day before transfection, seed the cells to obtain 60-80% confluency at the time of transfection. Perform transfection 1 day after cell seeding. If plated >1 day prior to transfection, the transfection efficiency may decrease.
- Prior to transfection, make LipoJet™ Transfection Buffer working solution (1x) by diluting one part of provided LipoJet™ Transfection Buffer (5x) with 4 parts of ddH2O.
- Dilute the DNA in LipoJet™ Transfection Buffer (1x) first, and then add the LipoJet™ reagent.

Tips to Increase DNA Transfection Efficiency

- Increase DNA amount up to 2 folds.
- Test LipoJet™/DNA ratio ranging from 1:1 to 3:1.
- Just after transfection, centrifuge the plates 3 min at 200 g.

Tips to Increase Cell Viability

- Replace medium after 5 hours after transfection.
- Decrease DNA amount by half or more.
- Perform transfection at higher cell confluency such as 90%.
- Check that the target gene does not affect cell viability.

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