ACE Trans Instruction Manual

【Product Name】：



Product Name	Product Code	Package Specification	Shelf Life	Storage Conditions
ACE Trans	ACE05102	1ml	12months	Store at -20℃
ACE Trans（10ml）	ACE05102-10ml	10*1ml	12months	Store at -20℃

【Scope of Application】： For research use only. Not suitable for clinical diagnosis or treatment

【Intended Use】： This system is suitable for low-density suspension culture, DNA transient transfection, and protein expression in HEK293 cells and other 293 cell lines.

【Transport Requirements】： Transport on wet ice

【Storage Conditions and Shelf Life】： Store at -20℃. Shelf life is 12 months

【Usage Method】

1.Transient Transfection (using 100ml cell suspension as example)

(1) Prepare two 15ml sterile centrifuge tubes. To one tube, add 5ml ACE293 SFM and 100 μg sterile plasmid DNA, mix gently by pipetting; take the other tube, add 5ml ACE293 SFM and 500 μl ACE Trans transfection reagent, mix gently by pipetting;

(2) Transfer all liquid from the tube containing transfection reagent to the tube containing plasmid, mix gently by pipetting;

(3) Let stand at room temperature for 10min to prepare plasmid-vector complexes (see Figure 1);

(4) Remove cells from constant-temperature shaker, slowly add the prepared plasmid-vector complexes while shaking, then return to CO2 constant-temperature shaker for suspension culture. After 3 hours, appropriate antibiotics may be added if needed.

2.Product Expression and Detection

(1) At 24 hours post-transfection, 600 μl/L 293 cell protein expression enhancer (ACEProEnhance) may be added to increase product yield;

(2) Transient transfection nutrient supplement (ACE PepPlus 50×) can improve product expression levels and should be added once at 24 hours post-transfection;

(3) Measure product expression levels between days 5-7 post-transfection;

(4) For most recombinant proteins, peak expression levels are typically achieved around day 6 post-transfection. Clients may determine the optimal harvest time based on cell status and expression levels.

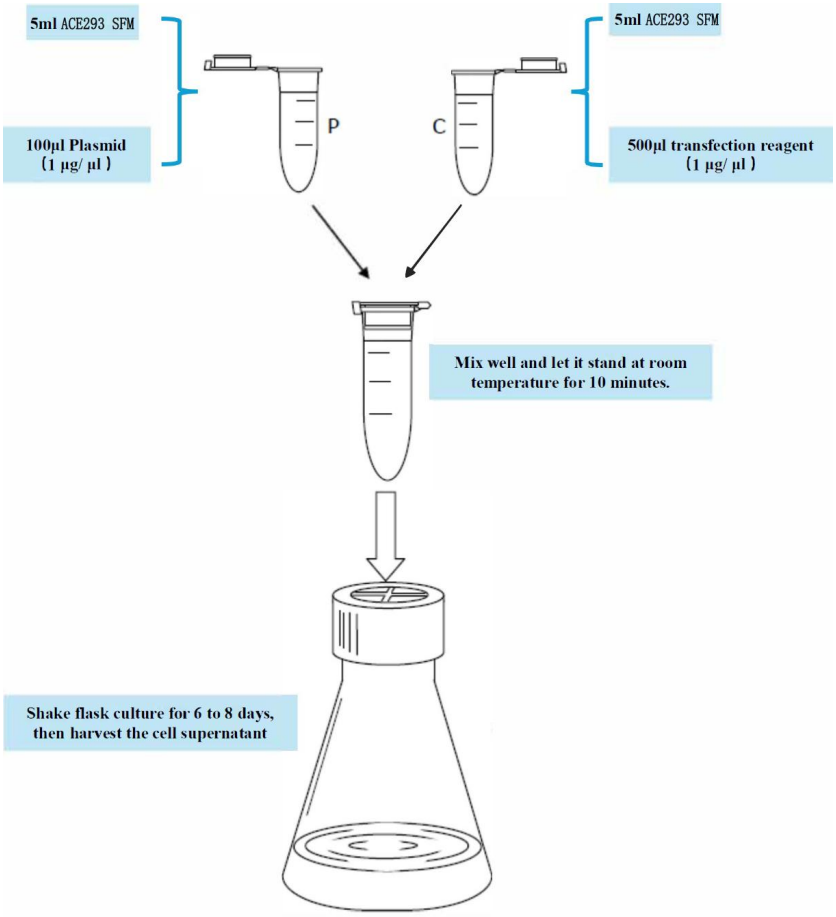

Figure 1. Preparation of plasmid-vector complex

Key Operating Points and Precautions:

a. The total volume of AC TransMedium should be 1/10 of the cell suspension volume; plasmid dosage is 1μg/ml (DNA/culture medium volume);

b. The mass ratio of plasmid:transfection reagent can be 1:3, 1:4, 1:5, or 1:6. For most plasmids, 1:5 gives optimal results. Clients may optimize conditions based on practical experience, but ratios below 1:3 or above 1:8 are not recommended;

c. AC Trans (concentration 1μg/μl) appears as a clear white liquid. Mix well by shaking or pipetting before use;

d. Do not shake during plasmid-transfection reagent incubation - vigorous agitation may cause incubation failure;

Prepare plasmid-vector complexes completely before removing cells from the shaker;

Add complexes to cells dropwise while shaking - do not remove cells from the shaker too early.

Friendly Reminder:

This product requires cryogenic storage (-20°C). We recommend aliquotting before freezing according to experimental needs to avoid repeated freeze-thaw cycles. After opening, store at 4°C and use within one week for optimal performance.