Turbo293 Ab™ Transfection Kit

SKU/Catalog#	Size
PXX1005	For 1 L of Culture
PXX1006	For 20 L of Culture

Description

Turbo293 Ab™ Transfection Kits have a unique formulation optimized for recombinant monoclonal antibody production through transient transfection of HEK293 cells grown in suspension culture. The Kit and accompanied protocols boost Ab production yield to the highest level compared to similar products. Turbo293 Ab™ Transfection Kit is provided as a sterile, ready-to use solution. Benefits of this product include:

- Optimized for recombinant antibody production in high density cell culture
- Achieves high yield of recombinant antibody
- Boosted with matching Enhancer reagent
- Derived from non-animal sources
- Protocol easily scales up
- Compatible with both serum-containing and serum-free media

General Considerations

- Use only high quality, endotoxin-free DNA. DNA should be at a concentration of 0.5~1 µg/µL. If DNA concentration is lower, concentrate the DNA to reach optimal concentration.
- Propagate HEK293 suspension cultures on an orbital shaker at 125 rpm at 37°C (8% CO2).
- Passage cells regularly (e.g., every 2~3 days). Avoid density higher than 5 x 10^6 cells/mL. Use only rapidly proliferating cells for transfection (e.g., doubles in 24 hours). To ensure reproducibility, keep cell growth conditions and density consistent.
- Make sure that the cells are healthy and greater than 90% viable before proceeding to transfection.
- Turbo293 Ab™ Transfection Kit is compatible with both serum-containing and serum-free media.

Note: Do not include serum and antibiotics during the formation of the transfection reagent/DNA complex.

Protocol

The following protocol is optimized for recombinant monoclonal antibody production in 50 mL suspension HEK293 cells in a 125 mL polycarbonate Erlenmeyer flask. For other culture sizes, reagent and DNA amounts

can be scaled up or down proportionally (a guideline is provided in Table 1 below).

1. The day before transfection, passage HEK293 suspension cells at approximately 1.5 x 10^6 cells/mL. Incubate at 37°C (8% CO2) overnight with 125 rpm rotation. Cell density should be at approximately 2.5 x 10^6 cells/mL at the time of transfection.
2. On the day of transfection, count the cells and adjust cell concentration to 2.5 x 10^6 cells/mL and place 40 mL of cells in a 125 mL shake flask.
3. Place 2.0 mL serum-free MEM, Opti-MEM, or PBS into a sterile tube. Add 50 µg of DNA and mix well.
   Note: *DNA may be a combination of heavy and light chain DNA or only one DNA construct when heavy and light chains are cloned into one plasmid. Do not use the serum-free culture medium in which HEK293 cells were grown.*
4. Place 2 mL serum-free MEM, Opti-MEM, or PBS into a separate sterile tube. Add 50 µL of Turbo293 Ab™ Transfection Reagent and mix well.
5. Combine the diluted Turbo293 Ab™ Transfection Reagent from step 4 with the diluted DNA tube from step 3 and mix well.
6. Incubate transfection mixture at room temperature for 15 minutes to allow formation of Turbo293 Ab™ Transfection Reagent and DNA complex.
7. Add entire volume of transfection mixture to the prepared HEK293 cell suspension.
8. Incubate cultures with 125 rpm rotation at 37°C (8% CO2).
9. On the next day of transfection, add 150 uL of Turbo293 Ab Enhancer to the culture. Add 9 mL of culture medium.
10. Incubate at 32°C (8% CO2) with 125 rpm rotation for additional 5 days.
11. On the 6th day post transfection, harvest cells for antibody purification and characterization.

Table 1. Preparation of Transfection Mixture for Various Culture Sizes Culture Size

	Culture Size			
Transfection Culture Volume (mL)	40	200	400	800
Number of Cells (x10^6)	100	500	1000	2000
Volume of MEM or PBS in the Transfection Mixture (mL)	2.5	10	25	50
Volume of Turbo293 Ab™ Transfection Reagent (uL)	50	250	500	1000
Amount of Plasmid DNA (ug)	50	250	500	1000
Amount of Turbo293 Ab™ Enhancer (mL)	0.15	0.75	1.5	3.0