

Tiaris™ Cell Transfection Kit

PROBLEMS	POSSIBLE REASONS	SOLUTIONS
Tiaris™ Transfection Reagent		
	Transfection Reagent was frozen	Use other tube of Tiaris™ Transfection Reagent. Do not use Transfection Reagent that have been frozen. Store at +4 °C.
	Long term storage or low temperatures	Although turbidity does not affect performance, vortex the vial before use it.
Low Efficiency of Transfection		
	Suboptimal procedure applied.	Optimize transfection protocol considering cell line, confluency, growth, DNA quantity, ratio DNA: transfection reagent, etc
	DNA concentration too low or DNA is degraded	-Confirm DNA integrity by A_{260}/A_{280} spectrophotometer reading (at least 1.7). -Perform gel electrophoresis to check DNA integrity
	Endotoxin presence	Use endotoxin free DNA
	Ratio DNA: Tiaris™ Transfection Reagent	Optimize the ratio DNA: Tiaris™ Transfection Reagent
	Transfection complexes are poorly formed or not formed at all.	Serum-free DMEM is recommended for complex formation. The transfection complex must first be formed in the absence of serum.
	Precipitation of transfection complex.	Excess EDTA. Dissolve DNA in water.
	Cell density too low	Ensure that cells are 70 to 90% confluent at time of transfection
	Cells with many passages	Use low-passage-number-cells (less than 20) or use fresh vial of cells.
Cellular Toxicity		
	Mycoplasma contamination	Check the culture is mycoplasma free.
	Incubation of Transfection Mix	Reduce the incubation time of cells with Transfection Mix
	Selection antibiotic added too soon (stable transfection).	Allow at least 48 h for cells to express resistance before adding selective antibiotic.
	Overexpression of toxic proteins	Check if your gene of interest encodes a toxic protein to these cells.
Low Expression Levels		
	Low expression of reporter gene control	Use a reporter gene driven by a suitable promoter as a transfection control.
Transfection not Reproducible		
	No confluency of cells used	Check cell confluency is optimal.
	Cells with many passages	Use low-passage-number-cells (less than 20) or use fresh vial of cells.