Metafectene HSG Technical Note

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Transfection of HSG cells (human epithelial submandibular salivary gland cell line)

HSG cells were cultured in 100mm dishes at 37°C, 95%O_2/5%CO_2 in phenol red free RPMI 1640 containing 10% FBS with antibiotics. For transfection, HSG cells were plated at 2.5 X 10^5 in a 60mm dish in 2.5 ml phenol red free RPMI 1640 containing 10% FBS with antibiotics. Twenty four hours later the media was changed and 2.5 ml of fresh serum containing media was added. HSG cells (50% confluency) were transfected for 24 hr with pc3DNA-Lac Z using either Metafectene or Lipid T (per manufacturer's instructions) and then washed and fixed for Lac Z staining. The amount of Mectafectene (µl) or Lipid T (µl) indicated in Table 1 was added to 100µl of serum free RPMI and incubated for 5 min at RT [TUBE A]. In a separate tube, the indicated amount of DNA (µg) was added to 100µl of serum free RPMI and incubated for 5 min at RT [TUBE B]. The contents of TUBE B was added to TUBE A, dropwise, and then mixed by pipetting up and down and incubated for 20 min at RT. The transfection solution was added dropwise to cells and mixed by swirling the plate. Transfection efficiency was determined by the number of cells stained blue per one hundred total cells (Figure 1).

Conclusion: Mectafectene was significantly more effective than Lipid T in transfecting HSG salivary gland epithelial cells (Table 1).

Table 1

Transfection reagent:DNA ratio µl:µg	**Transfection Efficiency** Metafectene	Lipid T
4:1	2%	1%
8:2	2%	1%
8:4	5%	2%
12:3	20%	2%
16:4*	15%	2%

* Toxicity and decreased transfection efficiency were noted at this and higher reagent:DNA ratio's.

Figure 1