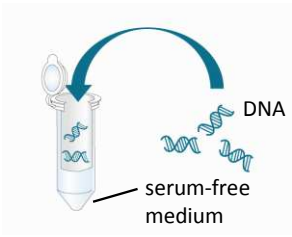
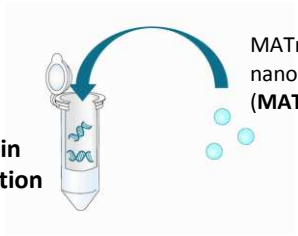
MATra Short Protocol for adherent cells

1. **Plate cells such that they reach 30-60% maximum density at the time of MATra (e.g. 2 x 10^5 HEK293 cells/cm^2 or 4 x 10^4 CHO-K1 cells/cm^2 24 hours prior to transfection).** For optimization of cell density see 3.1.1. and 3.2.3 of the manual.



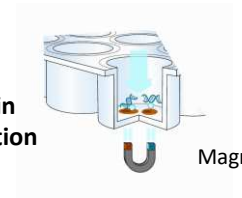
2. **Dilute nucleic acid with serum-free and supplement-free medium as indicated in the table below. For example, 3 µg nucleic acid are diluted with DMEM to an end volume of 200 µl, for transfection of cells grown in one well of a 6well plate.**
The amount of nucleic acid may have to be adjusted (see 3.2.3 of the manual). Transfection efficiency might be improved by doing DNA titration. In case of unexpected toxicity be sure to have an adequate control. Take care about DNA preparation and quality.



3. **Add diluted nucleic acid to the respective amount of MATra-A Reagent (see table below), e.g. 3 µl for 3 µg nucleic acid of the 6well plate example given above. Mix thoroughly and incubate at room temperature for 20 minutes. Vortex MATra-A Reagent before use!**
In case of low transfection efficiency the ratio of MATra-A Reagent and DNA amount should be optimized (see 3.2.3 of the manual).

4. **(Optional) During incubation of MATra-A and nucleic acid, perform a medium change.** The medium supernatant may contain supplements and/or serum.

5. **Add the DNA/MATra-A mixture to the cells and mix immediately. For the 6well plate example, add 200 µl of the DNA:MATra-A mixture to the 2 ml supernatant in each well.** The supplements and serum are diluted by this step. If the cells used are sensitive to such alterations, refer to step 7.



6. **After mixing, place the plate or flask immediately on the suitable Magnet Plate. Incubate for 15 minutes and then remove the Magnet Plate.** Incubation time can be varied between 5 and 20 minutes for optimization.

7. **(Optional) Perform a medium change after 4-6 hours of incubation,** particularly if transfection has been carried out in serum-free medium. If cell types are used which are sensitive to medium change, perform a medium change only if it is really necessary.

8. **Continue to culture the cells as desired until evaluation of transfection efficiency.** Wait at least 48 hours before exposing the transfected cells to selection media.

DNA and MATra-A amount in different assay formats

Assay format*	Surface*	Surface Factor*	DNA amount in medium	µl MATra-A Reagent	Medium supernatant of the cells
96 well plate	0.32 cm^2	1	0.1 µg in 15 µl medium	0.1 µl	0.15 ml
48 well plate	0.95 cm^2	3	0.3 µg in 25 µl medium	0.3 µl	0.25 ml
24 well plate	1.9 cm^2	6	0.6 µg in 50 µl medium	0.6 µl	0.5 ml
12 well plate	3.8 cm^2	12	1.2 µg in 100 µl medium	1.2 µl	1 ml
6 well plate	9.5 cm^2	30	3 µg in 200 µl medium	3 µl	2 ml
60 mm dish	21 cm^2	66	6.6 µg in 400 µl medium	6.6 µl	4 ml
100 mm dish	55 cm^2	172	17.2 µg in 1000 µl medium	17.2 µl	10 ml
T-75 flask	75 cm^2	235	23.5 µg in 1500 µl medium	23.5 µl	15 ml

Table 1. DNA and MATra-A amount in different magnet assisted transfection assay formats
* With cell culture materials from Corning/Costar.

Comprehensive MATra manual for download at www.iba-lifesciences.com/technical-support.html

The detailed protocol includes:

- Magnet assisted transfection of suspension cells
- Magnet assisted transfection of siRNA with MATra-si Reagent
- Magnet assisted lipofection (MA Lipofection Enhancer)
- Viral transfection with MA Lipofection Enhancer
- Further information

Additionally visit our Web site at www.magnet-assisted-transfection.com for:

- References
- Application Notes
- FAQs
- Overview of cells successfully transfected with MATra

Contact us for more information or technical assistance

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