

Magnetofectamine™

The winning combination for optimal transfection efficiency

Ideal to transfect primary and Hard-to-transfect cells, **Magnetofectamine™** associates **Lipofectamine™ 2000** from Invitrogen™ and OZ Biosciences's **CombiMag reagent**, increasing the overall efficiency of your transfection while minimizing cytotoxicity.

Lipofectamine™ 2000 is the leading transfection reagent on the market for simple and effective nucleic acid delivery (DNA and siRNA).

CombiMag is a Magnetofection™ based reagent: versatile and improving transfection efficiency without toxicity.

Magnetofection™ is a creative, simple and highly efficient method to transfect cells in vitro and in vivo.

This magnetic assisted transfection is based on the use of magnetic nanoparticles associated to the nucleic acid. In this way, the magnetic force allows a rapid concentration of genetic material onto cells and promotes cellular uptake.

- **Superior transfection efficiency**
- **Enhanced Lipofectamine™ 2000 efficiency**
- **Ideal for hard-to-transfect and primary cells**
- **Less nucleic acids used - minimized toxicity**
- **Serum compatible and applicable to all nucleic acids**
- **Simple, ready-to use and rapid**
- **No need to change your standard Lipofectamine™ 2000 protocol**

Results

1. **Data 1:** Superior DNA transfection efficiency in primary cells (**Fig.1/2**)
2. **Data 2:** Superior transgene expression in a broad spectrum of cell lines (**Fig.3**)
3. **Data 3:** Magnetofectamine™ exhibits high levels of transfection efficiency (**Fig.4**)
4. **Data 4:** Viability and Efficiency - Minimized toxicity (**Fig.5**)

Maximize transfection efficiency

Magnetofectamine™ kit enhances DNA transfection efficiency and gene expression in a variety of primary cells and cell lines.

In the presence of CombiMag reagent, Lipofectamine™ 2000 delivers plasmid at higher efficiencies, from +30 to 500%.

Superior DNA transfection efficiency in primary cells

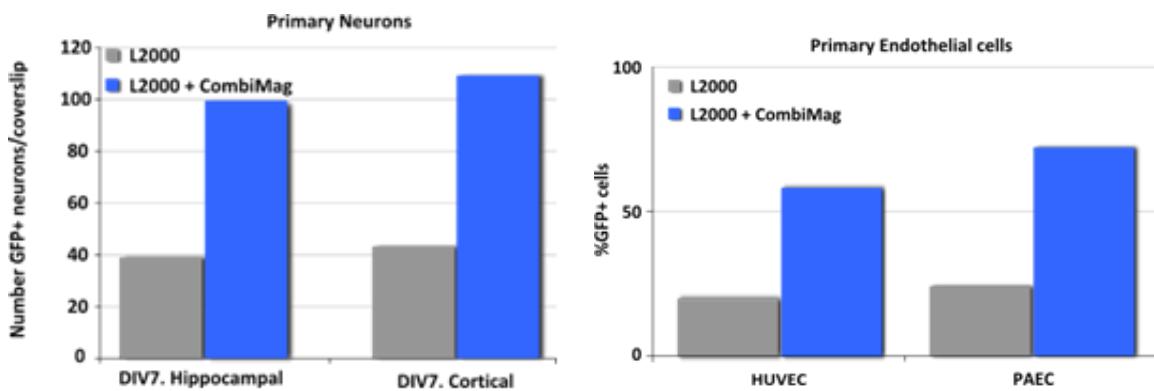


Fig.1: CombiMag enhanced Lipofectamine™ 2000 transfection efficiency on primary neurons and primary endothelial cells.

(A) Primary hippocampal and cortical neurons and (B) primary endothelial cells (HUVEC, PAEC) were transfected with Lipofectamine™ 2000 or Magnetofectamine™ (Lipofectamine™ 2000 + CombiMag). *Figure (B) is adapted from Basile et al. 2005. Mol Cell Biol. 25:6889-6898.*

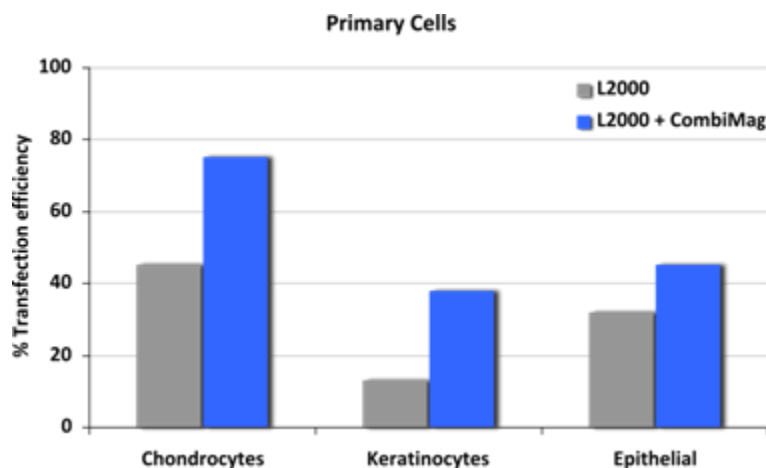


Fig.2: CombiMag enhanced Lipofectamine™ 2000 transfection efficiency on primary Chondrocytes, Keratinocytes and Epithelial cells.

Primary cells were transfected with Lipofectamine™ 2000 or Magnetofectamine™.

Superior transgene expression in cell lines

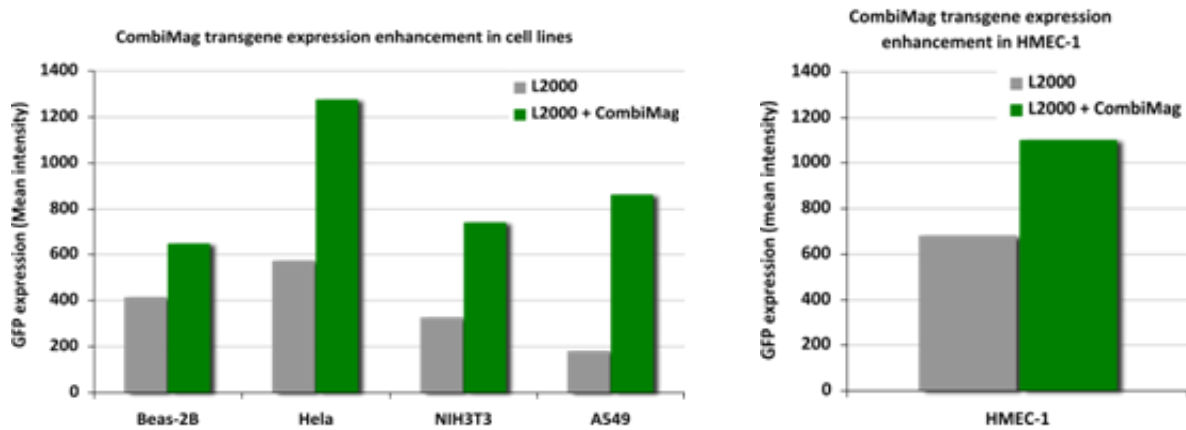


Fig.3: CombiMag enhanced Lipofectamine™ 2000 transfection efficiency on a wide variety of commonly used cell lines as well as on hard-to-transfect cells.

Classical and hard to transfect cell lines were transfected using 0.25 µg and 0.5µg pVectOZ-GFP plasmid respectively complexed with Lipofectamine™ 2000 (grey bars) or with Lipofectamine™ 2000 and CombiMag at a DNA/CombiMag ratio of 1:1 (green bars). Results were analysed by cytofluorometry 24 h after transfection.

Magnetofectamine™ exhibits high levels of transfection efficiency

Using Magnetofectamine™, transfection efficiencies **exceeding 50%** and even **70%** can be achieved into many primary cells, such as **HUVEC**, **Chondrocytes** and **human Mesenchymal Stem Cells**.

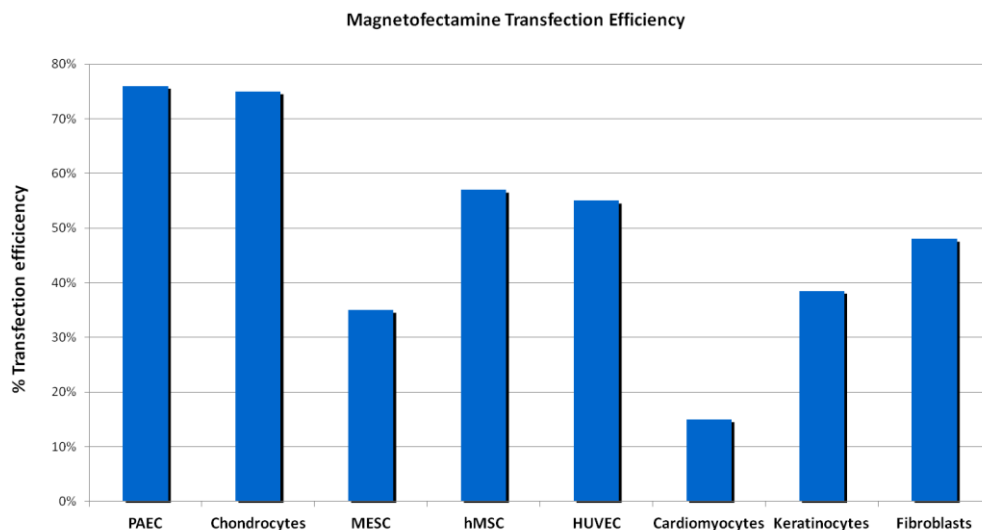


Fig. 4: Magnetofectamine™ efficiently transfects primary cells.

Primary cells were transfected with Magnetofectamine™ kit in 24-well plate and efficiency was monitored 48 hours post-transfection by flow cytometry.

Many other classical and hard-to-transfect cell lines, such as **SH-SY5Y**, **PC-12**, **MEF**, **HMEC-1**, **C6** are transfected with high levels of transfection efficiency.

Minimize cytotoxicity

Magnetofectamine™ is performant even with **low doses of nucleic acids** resulting in **minimized cytotoxicity**. The combination of the two technologies, **Lipofectamine™ 2000 and CombiMag (MagnetoFection™)** enables using smaller amounts of nucleic acid and increasing the overall efficiency of your transfection. No need to increase the amount of plasmid DNA and reagent to increase transfection efficiency.

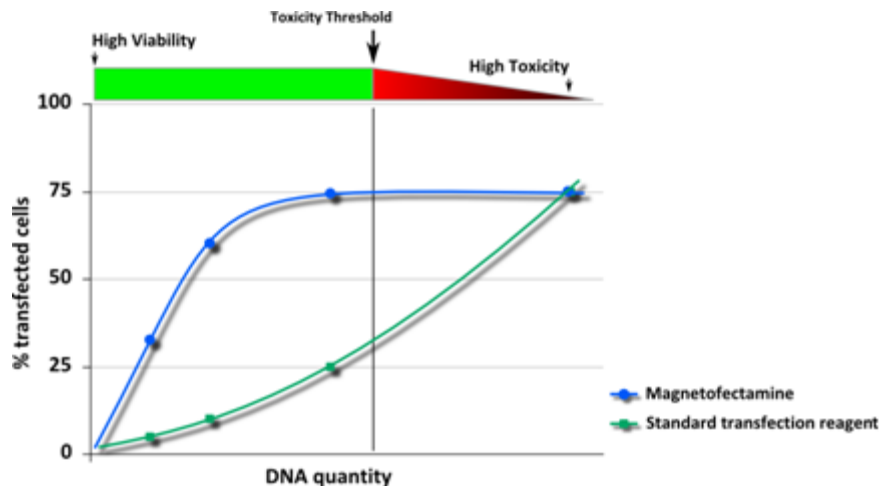


Fig.5: Viability and Efficiency - Minimized toxicity

As the magnetic force drives the gene vector towards the target cells, Magnetofectamine™ allows the vector dose to get concentrated onto the cell very rapidly and triggers delivery via endocytosis. Consequently, high transfection efficiencies can be achieved with less nucleic acid amount.

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