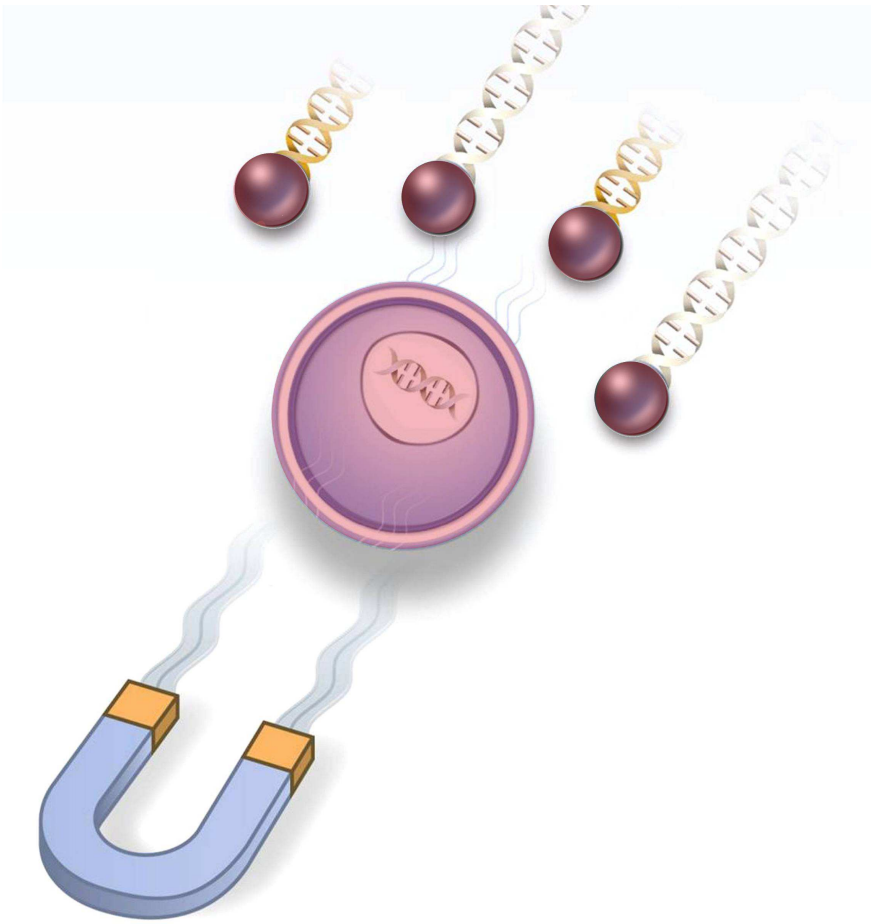
Magnetofection™ - FluoMag application Note



OZBIOSCIENCES
The art of delivery systems

We Bring The World Of Biotechnology To You
BOCA SCIENTIFIC

FluoMag

The FluoMag reagents (FluoMag-P, FluoMag-C, FluoMag-S, and FluoMag-V, FluoMag-N) are used exactly the same way as their corresponding Magnetofection reagents (PolyMag, CombiMag, SilenceMag, ViroMag and NeuroMag).

Accordingly, we recommend you to follow the detailed instruction manual of these Magnetofection reagents for all FluoMag products.

For FluoMag-S, we suggest to use at least 1µL of reagent per assay in order to obtain enough fluorescent signals.

FluoMag reagents are light sensitive and must be store in the dark at +4°C

FluoMag reagents

Magnetofection™ is a simple and highly efficient method to transfect cells in culture and in vivo. OZ Biosciences offers eight ready-to-use reagents based on this method:

- **PolyMag** designed for all transfection and all nucleic acids delivery (RNA, ODN, siRNA...)
- **SilenceMag** for siRNA applications
- **CombiMag** for enhancing all transfection reagents efficiency
- **ViroMag** for viral transductions
- **ViroMag R/L** for retrovirus and lentivirus applications
- **SelfMag** for making your own magnetic delivery systems
- **NeuroMag** specific for transfection of primary neurons and neuronal cell lines

Red FluoMag reagents are tetramethylrhodamine-conjugated magnetic nanoparticles. These red fluorescent reagents are useful for many applications. For instance:

- Double labeling and co-localization studies, with GFP or FITC labeled nucleic acids
- FACS analysis, fluorescent and confocal microscopy
- Transfection mechanisms follow (interaction with cells, intracellular pathway...)
- Fluorescence resonance energy transfer (FRET) assay as well as tracking internalization pathway in endocytic vesicles.
- Determine complexes stability in various biological environment
- Analyze the association of nucleic acids or transfection reagents or viruses with the magnetic nanoparticles

Four different fluorescently-labeled magnetic nanoparticles are available:

- **FluoMag-P** corresponding to *PolyMag* (DNA transfection and nucleic acids delivery)
- **FluoMag-S** analogous to *SilenceMag* (siRNA applications)
- **FluoMag-C** corresponding to *CombiMag* (for enhancing all transfection reagents efficiency)
- **FluoMag-V** equivalent to *ViroMag* (viral applications)
- **FluoMag-N** equivalent to *NeuroMag* (neurons applications)

Nucleic Acid Types

Nucleic Acid or Virus Type	*FluoMag-P*	*FluoMag-S*	*FluoMag-C*	*FluoMag-V*
DNA (plasmid)	√	NA	√	NA
Oligonucleotides	√	ND	√	NA
mRNA	√	ND	√	NA
siRNA	√	√	√	NA
dsRNA, shRNA	√	√	√	NA
Viruses	NA	NA	√	√

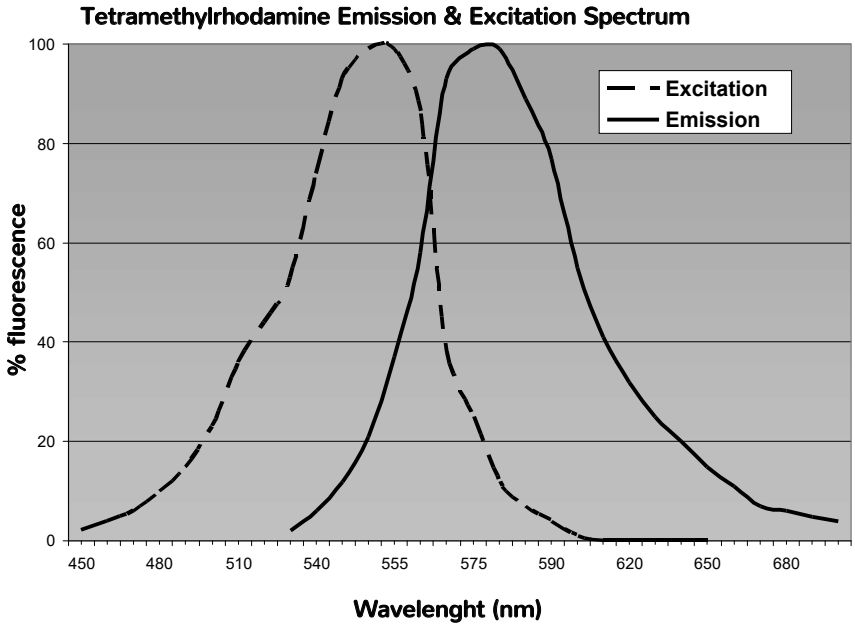
NA: not applicable; ND: not determined

Cell Types

FluoMag reagents are usually applicable on many cell types. This technology has been tested successfully on a variety of immortalized and primary cells.

Tetramethylrhodamine Probe

The **FluoMag** reagents are labeled with a rhodamine fluorophore (red) that is visualized in the visible spectrum. The excitation peak is at 555 nm and the emission maximum at 580 nm. It is ideal for FACS, fluorescent and confocal microscopy and most fluorescent detection systems. This red probe is pH insensitive and therefore suitable for fluorescence resonance energy transfer (FRET) studies. The label is covalently coupled to the magnetic nanoparticles and cannot leave the nanoparticles upon nucleic acid interactions or internalization.



Fluorescent probe	Max Excitation Wavelength (nm)	Max Emission Wavelength (nm)	pH Sensitive
TRITC	555	580	no

ε (Cm^{-1} M^{-1})	CF 280 (A_{280} free dye / A_{max} free dye)	Laser range
65,000	0.30	visible

Kit Contents

Kit content depends on application:

- 1 tube containing 0.1 mL of **FluoMag -P** good for 100 transfections with 1µg of DNA.
- 1 tube containing 0.1 mL of **FluoMag -C** good for 100 transfections with 1µg of DNA.
- 1 tube containing 0.1 mL of **FluoMag -S** good for 200 assays in 96-well plate with 10nM of siRNA.
- 1 tube containing 0.1 mL of **FluoMag -V** good for 30-50 transductions in a 24-well plate.
- 1 tube containing 0.1 mL of **FluoMag -N** good for 30-50 transfections with 1µg of DNA.

Stability and Storage

Storage Upon receipt and for long-term use, store all tubes in the fridge. FluoMag reagents are light sensitive and must be store in the dark at +4°C. They are stable for at least one year at the recommended storage temperature.

- **DO NOT FREEZE THE MAGNETIC NANOPARTICLES!**
- **DO NOT ADD ANYTHING TO THE STOCK SOLUTION OF MAGNETIC NANOPARTICLES!**

Shipping condition Room Temperature