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PolyFect Transfection Reagent



For fast and easy DNA transfection of standard cell lines

Specifications

- Optimized transfection using cell-specific protocols
- · Fast procedure and easy handling
- High cell viability, low cytotoxicity

PolyFect Transfection Reagent is based on activated dendrimer technology optimized for the transfection of DNA into COS-7, NIH/3T3, HeLa, 293, and CHO cells.



PolyFect Reagent with HeLa cells.

Expression of **[A]** beta-galactosidase and **[B]** green fluorescent protein (GFP) in HeLa cells is shown. Cells were cotransfected in 6-well plates with beta-galactosidase- and GFP-reporter plasmids using PolyFect Transfection Reagent and the HeLa cell protocol. Expression was visualized by X-gal staining or fluorescence microscopy 2 days post-transfection.

Performance

PolyFect Reagent consistently delivers high transfection efficiencies (see figures "High transfection efficiencies in CHO and 293 cells" and "PolyFect Reagent with HeLa cells"). In contrast to many liposomal reagents, PolyFect Reagent enables transfection in the presence of serum without lowering of transfection efficiency.

Principle

PolyFect Transfection Reagent is a solution of specifically designed activated-dendrimers. The reagent consists of dendrimer molecules of a defined spherical architecture with branches radiating from a central core (see figure "Activated dendrimer"). The branches terminate at charged amino groups, which can interact with negatively charged phosphate groups of nucleic acids. PolyFect Reagent assembles DNA into compact structures (see figure "PolyFect—DNA interaction"), that bind to the cell surface and are taken into the cell by nonspecific endocytosis. The reagent buffers the pH of the endosome, leading to pH inhibitition of endosomal nucleases, which ensures stability of PolyFect—DNA complexes.

Procedure

PolyFect Transfection Reagent is provided as a ready-to-use solution. The transfection procedure (see flowchart "PolyFect transfection procedure") is fast and simple — just add PolyFect Reagent to the DNA solution, mix, incubate for 5–10 minutes, add growth medium (which can contain serum and antibiotics), and pipet the PolyFect–DNA complexes onto the cells. The cells are then incubated for gene expression. No post-transfection removal of complexes or medium change/addition is necessary, making the procedure fast and easy.

High-throughput transfection

Transfection using PolyFect Reagent requires minimal handling and removal of transfection complexes is not required, making this reagent highly suitable for high-throughput screening. PolyFect Reagent provides outstanding transfection efficiencies, excellent reproducibility, and minimal cytotoxicity in high-throughput transfection, and is available in bulk quantities. For optimized protocols for transfection of COS-7, NIH/3T3, HeLa, HeLa-S3, 293, and CHO cells in 96-well plates, please contact QIAGEN Technical Services.

Applications

PolyFect Transfection Reagent is highly suited for efficient transfection of standard cell lines in:





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