New Product

High Efficiency & Low Cytotoxicity DNA Transfection of Primary Neurons

NeuroFect™ Transfection reagent

Primary neuronal cultures are exceptionally difficult to transfect. Existing broad-spectrum transfection reagents, which provide acceptable levels of plasmid delivery in a wide range of cell lines, invariably give low efficiencies in primary neurons. Newer electroporation-based technologies, although providing higher delivery efficiencies, are extremely costly, and often result in unacceptably high levels of cell death. As a result, neuroscientists must spend an inordinate amount of time and money testing numerous methods only to be caught between low cost / low efficiency reagents and high cost / highly cytotoxic electroporation technologies.

A Quantum Leap in Primary Neuron Transfection Technology

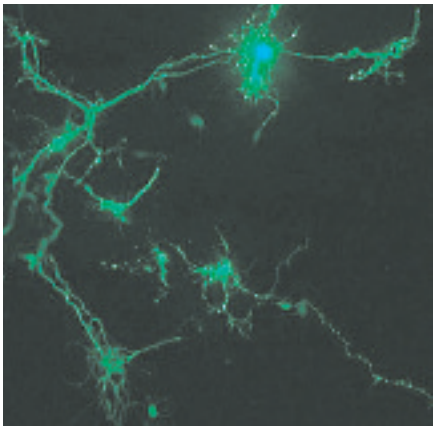
Now there is no need to waste your lab's time and money trying to obtain efficient transfection with low cytoxicity in primary neurons. The new NeuroFECT™ Transfection Reagent from Genlantis provides both advantages in one reagent:

- Higher transfection efficiencies than existing lipofection reagents
- Lower cytotoxicity than newer electroporation technologies
- Lower price than newer electroporation technologies
- Simple and straightforward protocol

Unique Cationic Polymer Formulation With Minimized Cytotoxicity

NeuroFect™ is a novel, biodegradable, cationic polymer created specifically for optimal transfection of neuronal cells. During transfection, the polymer/DNA complexes (polyplexes) are endocytosed into the cells, where the polymer is biodegraded into small non-toxic molecules. The ability of NeuroFect to biodegrade *in vivo* dramatically reduces its cytotoxicity

Figure 1: Primary Rat E18 Hippocampal Neurons Transfected with NeuroFECT™ Transfection Reagent.



New Product

Figure 3. Expression Levels of NeuroFECT™ Reagent vs. LipoFectamine 2000 (LF2K) in Primary E18 Rat Hippocampal Neurons

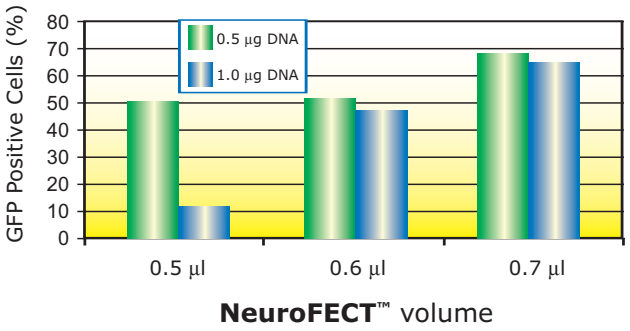
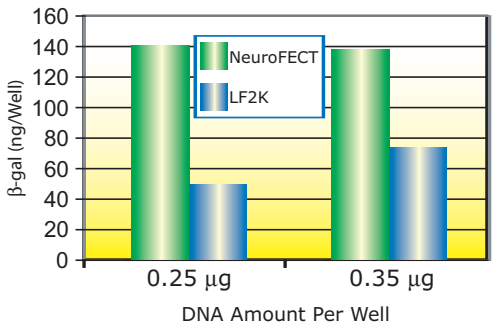


Figure 3. Transfection Efficiency of NeuroFECT™ Reagent vs. LipoFectamine 2000 (LF2K) in Primary E18 Rat Hippocampal Neurons



and therefore maximizes the delivery of macromolecules into cells.

Exceptional Transfection Efficiency

With NeuroFECT™, transfection efficiency of plasmid DNA reaches 65% in primary neurons (Figure 2). These neurons are widely used for neuronal gene function studies. They are notoriously difficult to transfect, with delivery efficiencies typically ranging between 10% and 25% using other commercially available transfection reagents.

To demonstrate, NeuroFECT™ was used to transfect a plasmid expressing Green Fluorescent Protein (GFP) into primary E18 rat hippocampal cells and analyzed the transfection efficiency by FACS analysis. The resulting delivery efficiency reached 65%. This was 40% higher than a leading competitor's broad-spectrum transfection reagent.

In a separate experiment, a ß-galactosidase was transfected into primary E18 rat hippocampal neurons, and expression levels were analysed using a quantitative ß-galactosidase assay. The expression levels achieved with the NeuroFECT™ reagent were over 4-fold higher than those achieved with the competitor's lipid-based transfection reagent (Figure 3).

The Primary Neuron Transfection Reagent You've Been Waiting For

With NeuroFECT™ Transfection Reagent, you don't have to choose between low efficiency, broad-spectrum transfection lipids and high cost, high toxicity electroporation methods for DNA delivery to your primary neuronal cultures. Call Genlantis and order your NeuroFECT™ transfection reagent today.

Product	Quantity	Catalog no.	Price
NeuroFect™ siRNA Transfection Reagent			
0.75 ml	75-300 rxn.	T800750	$310
5 x 0.75 ml	375-1500 rxn.	T805750	$1390