“Electroporation safer and more effective than Chlamical Transfections”

Electroporation is a non-viral gene delivery method that uses electric pulses to transiently open the cell membrane, allowing the translocation of DNA and other molecular materials into living cells. This technique is widely used in research and has potential applications in gene therapy. The current issue of BTX Current provides an overview of the latest advancements in electroporation technology, including the introduction of a new monopolar system for non-viral and non-chlamical gene delivery.

In Vivo Electroporation Edition

Gene Transfer into Mouse Preparative Endoderm by Whole Embryo Electroporation

**CONTEXT:** Understand gene function in developing pancreas is a major issue for pancreatic cell therapy. The in vivo analysis of gene function has essentially been performed by modulating gene expression in transgenesis. A faster and easier method is electroporation of mouse embryos. This technique, coupled with whole embryo culture, enables one to deliver genes and analyze their effects in a spatially and temporally regulated manner.

**OBJECTIVE:** We wanted to adapt the electroporation technique for gene transfer of 8.5 mouse embryos into the endoderm to allow expression to transgenes in pancreas or liver.

**RESULTS:** Using two platinum plate electrodes, we could target and express DNA constructs in the prepancreatic or prehepatic territories, identified with cell markers. We also demonstrated that this technique is a valuable tool in the study of transcriptional regulation in the developing endoderm.

**CONCLUSIONS:** Targeted electroporation of whole embryos is a useful method of characterizing the gene network which controls pancreatic development. Used ECM 830 & Platinum Tweezers.

In Vivo Electrodes & Applications

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- Muscle
- Organ

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- In Utero
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**Trivia:** What is the world's fastest bird? (c) 2005

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**Recent Reference Articles for BTX In Vivo Electroporation Applications:**

Efficient Gene Transfer into the Embryonic Mouse Brain Using in Vivo Electroporation

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**Introduction**

Electroporation is a method that allows foreign DNA to be introduced into the cells of the living body. In vivo electroporation has been used to deliver genetic material into the brain, liver, and kidney. However, the efficiency of gene delivery is limited due to the complexity of the living body. In vivo electroporation has been shown to be effective in delivering genetic material to the brain, liver, and kidney. However, the efficiency of gene delivery is limited due to the complexity of the living body.

**Conclusions**

Electroporation can be used to deliver genetic material to the brain, liver, and kidney. However, the efficiency of gene delivery is limited due to the complexity of the living body.

**References**