# Improved Electroporation Buffer for Enhanced Efficiency and Viability

***Our novel electroporation buffer allows for greater transfection efficiency and improved cell viability in hard-to-transfect cell types compared to commonly-used electroporation buffers. Electroporation using the novel buffer has even been found to match or exceed the effectiveness of Nucleofection™, without the associated costs. The buffer is compatible with standard electroporation equipment and protocols.***

## COMMERCIAL OPPORTUNITY

- Compared to the Amaxa Nucleofector™, electroporation using the novel buffer resulted in equivalent or greater transfection efficiency in three out of four cell types tested
    - Equivalent: K562 chronic myelogenous leukemia (CML) cells
    - Superior: Human dendritic cells, human embryonic stem cells (hESC)
- The buffer exhibited equivalent cell viability relative to Nucleofection™ in all four cell types.
- There is an attractive market for improvements in electroporation technology, as evidenced by products such as the Amaxa Nucleofector™ and improved electroporation buffers offered by BTX-Harvard, Mirus Bio and Bio-Rad.
- The cost of the Amaxa Nucleofector™ system is substantial, at approximately $12-22,000 for the device plus $450 for each 25-reaction reagent kit. The cost of the BTXpress™,Mirus Ingenio™ and Bio-Rad Gene Pulser™ buffers is also substantial, at approximately $295, $208 and $283 (per 25 reactions), respectively.
- In sum, the novel buffer allows for the efficient transfection of a variety of target cell types with low cytotoxicity, and provides a more cost-effective alternative to existing technologies that is compatible with standard electroporation techniques and equipment.

## TECHNOLOGY

Electroporation is a commonly-used technique for introducing foreign molecules into target cells. However, electroporation performs poorly on certain hard-to-transfect cell types, such as mature neurons, primary cultures and suspension cell-lines. The novel buffer promotes the efficient uptake of the target molecules while also maintaining the viability of the target cells. The buffer consists of: (i) DMEM, RPMI or MCDB-151 cell culture media; (ii) 50%(v/v) bovine serum; and (iii) 25-50 mM xylitol. The novel buffer is compatible with standard electroporation protocols and devices, and can be used to introduce a variety of target molecules, such as DNA, RNA and proteins.

## PATENT

US Patent Application 12/364,409 filed February 2, 2009 has been allowed.

## CONTACT

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## LICENSING OPPORTUNITY

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