

Typical reasons labs choose the NEPA21:

- **Efficient delivery in dense 3D structures**
Organoids are multicellular systems where standard transfection can struggle to penetrate. Electroporation creates transient membrane pores that enable delivery of DNA, RNA, and gene-editing reagents.
- **Tuneable electroporation for fragile samples**
Control over voltage, pulse length, interval, polarity, and pulse number makes it possible to optimize across organoid types with very different physical properties. This allows researchers to customize protocols for different organoid types (e.g., brain vs. liver vs. tumour organoids), which vary in cell density and membrane properties
- **High survival and low cytotoxicity when optimized**
Organoid cultures are expensive and slow to establish, so viability matters. NEPA21's poring + transfer pulse format is commonly used to balance delivery efficiency with cell survival.
- **Compatibility with CRISPR and gene-editing workflows**
NEPA21 can support delivery of Cas9-sgRNA RNPs for acute editing, as well as plasmid-based editor and reporter systems.
- **Large or multi-component payload support**
It is well suited to workflows where labs want to co-deliver reporters, effectors, and barcodes without viral packaging limits.