Hybrimune™ - Hybridoma

HYBRID YIELDS GENERATED BY ELECTROFUSION ARE 10-FOLD GREATER THAN PEG

	Antigen Specific Clones	
Experiment Number	E-Fusion	PEG
1	20	0
2	10	0
3	400	24
4	151	21
Mean	145	11

Table 1: Four different transgenic mice expressing Abs to human Ag were used to compare the efficiency of E-fusion to PEG fusion.

Source: Data courtesy of M. Coccia, PhD, Platform Development Group, Medarex Inc, Milpitas, CA)

Fusion Methods: PEG fusion was performed with standard protocols. For E-Fusion, mouse and SP2/O cells were washed twice in Cytofusion medium then mixed in the fusion chamber and tri-phasic pulse applied. Cells were recovered after 30 min and cultured in 96 well plates at 5000 cells/ml. Antigen-specific clones were counted using ELISA or HTRF, normalized to 100M cells.

Production System

FEATURES & BENEFITS

Hybrimune Advantage – Hybridoma production efficiency and cell viability are enhanced by specialized waveforms. The patented Ramp-K™ feature enhances cell compression, resulting in high fusion rates and excellent cell viability.

Non-Uniform Waveform – Provides rapid cell alignment and compression for increased fusion.

Scale-up – Direct scale-up from 2 ml to 9 ml to large-volume hybridoma production in the Hybrimune system.

Programmable – Easy programmable user-friendly windows based software. Data logs are stored and retrieved easily.

ELECTROFUSION APPLICATIONS

- **Monoclonal Antibody Production**
- **Dendritic – Tumor Cell Fusions**

WAVEFORM GENERATOR SPECIFICATIONS

The Hybrimune™ Waveform Generator is programmed using the Application Software.

The following parameters are available:

Pulse Function	Constant, linear, non-linear
Pulse Amplitude	100-1000 V
Pulse Width Range	20 – 1000 ms
AC Start Peak Range	5-75 V
AC Stop Peak Range	5-75 V
AC Frequency	0.2 to 2.0 MHz
AC Duration	0 to 60 sec

FUSION CHAMBER SPECIFICATIONS

Both the optimization and production chambers have been engineered to have identical electrical characteristics to facilitate direct scale-up to production, once pulse parameters have been optimized. In addition, the small chamber has a transparent bottom to permit visualization of the cell alignment by inverted or regular microscope.

Parameter	Optimization Chamber	Production Chamber
Volume	2 ml	9 ml
Outer ID	45.72 mm	45.72 mm
Inner OD	38.10 mm	38.10 mm
Gap	3.81 mm	3.81 mm
Well Height	5 mm	18 mm
Inner/Outer Radius	0.8333	0.8333

For reuse, the fusion chamber can be cleaned with NaOH, sterilization by EtOH, or Spor-Klenz® for spores and mycoplasma.

License Requirements

The use of the Hybrimune as a commercial and therapeutic system requires a license from Cellectis. Please contact BTX for more information.

ORDERING INFORMATION

Catalog #	Description
47-0300N	Hybrimune™ Electrofusion System **Includes:** Hybrimune waveform generator, 2 ml and 9 ml coaxial chambers, BTXpress Cytofusion® Medium C, user interface software, cables and manual. Requires Windows based laptop or PC (not included).
Accessories:	
47-0301	User-Interface Application Software
47-0030	2 ml Optimization Chamber
47-0020	9 ml Production Chamber
47-0001	BTXpress Cytofusion® Medium C, 500 ml