

**CASY<sup>VIVO</sup> Cell Counter & Analyzer - Powering Breakthroughs in Cell Research**

## Key Insights into Hyperthermia's Role in Cancer Cell Destruction

Maduabuchi, W.O. et al. (2023). Hyperthermia Influences the Secretion Signature of Tumor Cells and Affects Endothelial Cell Sprouting; *Biomedicines*, 11, 2256. DOI: 10.3390/biomedicines11082256.

Cell Culture; PANC-1; cytotox; Hyperthermia	
Index	CC3
Standardization	
Counting	X
Viability	X
Volume	

### The Challenge:

To optimize hyperthermic treatments for pancreatic cancer, researchers needed a precise method to assess the immediate and long-term effects of different temperatures on tumor cell viability.

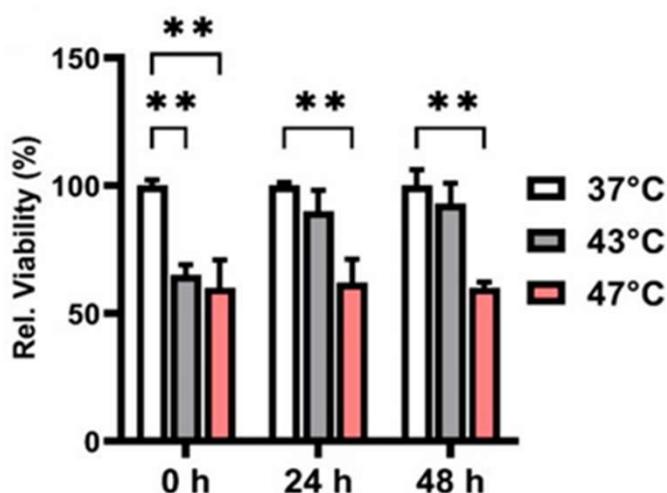
### CASY's Contribution:

The CASY counter, using impedance spectroscopy, was employed to accurately determine PANC-1 cell viability after various hyperthermia treatments. This allowed for a reliable assessment of the cytotoxic impact of different temperatures and their effects on cell survival over time.

### Key Benefits to Researchers:

- **Accurate Viability Assessment:** Obtain precise measurements of viable cells with intact membranes, providing a reliable indicator of cell survival post-treatment.
- **Rapid & Reproducible Results:** Leverage CASY's impedance spectroscopy for quick and consistent assessment of cell viability, ideal for time-course studies.
- **Supports Cytotoxicity Analysis:** Gain direct insights into the cytotoxic effects of treatments, differentiating between immediate and prolonged impacts on cell populations.
- **Complements Downstream Assays:** Use CASY's cell count data to normalize other measurements, such as secreted growth factors, ensuring accurate and meaningful comparisons.

**CASY's Impedance Spectroscopy Reveals Hyperthermia's Cytotoxic Impact on PANC-1 Cell Viability Over Time**



**Figure 2. (a)** Relative cell viability (CASY counter impedance spectroscopy) at 0, 24 and 48 h after strong/average hyperthermia