

CASY^{VIVO} Cell Counter & Analyzer - Powering Breakthroughs in Cell Research

Targeting Cancer via Oxidative Stress and Metabolic Collapse

Wang et al. (2025). Non-Invasive Physical Plasma as an Oncological Therapy Option... *Cancers*, 17, 3517. DOI: 10.3390/cancers17143517.

ovarian, prostate and breast tumors;	
Index	CC14
Standardization	X
Counting	X
Viability	X
Volume	

The Challenge:

Establishing a therapeutic approach that can selectively kill diverse cancer cell types—including ovarian, prostate, and breast tumors—without triggering the cytoprotective "resistance" mechanisms (such as heat shock proteins or antioxidant defenses) that often lead to the failure of conventional chemo- and radiotherapy.

CASY's Contribution:

The CASY Cell Counter was utilized to perform high-precision viable cell count detection for all six tumor cell lines. By providing automated counts in duplicate for each passage using cell-line specific gate settings, CASY enabled the generation of rigorous 120-hour growth curves to evaluate the time- and dose-dependent inhibitory effects of Non-Invasive Physical Plasma (NIPP)

Key Benefits to Researchers:

- **Precision Growth Analysis:** CASY precisely quantified the significant inhibition of tumor cell proliferation across all tested genotypes following NIPP exposure.
- **Therapeutic Threshold Definition:** Automated counts allowed researchers to establish how inhibitory effects were influenced by the distance and duration of treatment, helping define the optimal "therapeutic window".
- **Quantitative Rigor:** Provided the objective metrics necessary to validate that NIPP causes a true loss of cell viability rather than just temporary growth arrest.

