

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

Ensuring Assay Validity: Precise Monocyte and PBMC Counting in Co-Culture Models

Hamid et al. (2022). *Ascaris* excretory products modulate dendritic cell subsets; *Frontiers in Immunology*, 13:856789. DOI: 10.3389/fimmu.2022.856789.

Immunology, Monocyte, PBMC, Standardization	
Index	IM9
Standardization	X
Counting	X
Viability	
Volume	

The Challenge:

To accurately compare how *A. suum* E/S products modulate diverse porcine immune populations, researchers required absolute consistency across multiple cell types and assay formats.

CASY's Contribution:

CASY was instrumental in establishing a uniform experimental baseline. By providing high-precision counts for CD14+ monocytes, unsorted PBMCs, and co-culture populations, CASY ensured a standardized seeding density of 1×10^6 cells/mL across all conditions. This rigorous quantification was the critical factor in validly demonstrating that *A. suum* E/S suppresses type 1 immune responses, eliminating density-driven variables.

Key Benefits to Researchers:

- **Accuracy:** Provided precise, automated cell counts for multiple cell types (PBMCs, monocytes).
- **Standardization:** Enabled rapid, label-free normalization of all cell cultures to a consistent density (1×10^6 cells/mL) before stimulation or co-culture.
- **Reliability:** CASY ensured consistent seeding densities, which were essential for the validity of the key findings, ensuring that the observed suppression of IFN- γ (in NK and T-cells) was a true biological effect of the E/S products, not an artifact of unequal cell numbers.

