

CASY^{VIVO} Cell Counter and Analyzer

Validating CRISPR Screens with Confidence:
Accurate T-Cell Viability from CASY

Lin and Levi et. al. Multimodal stimulation screens reveal unique and shared genes limiting T cell fitness, Cancer Cell. 2024 Apr 8;42(4):623–645.

The Challenge:

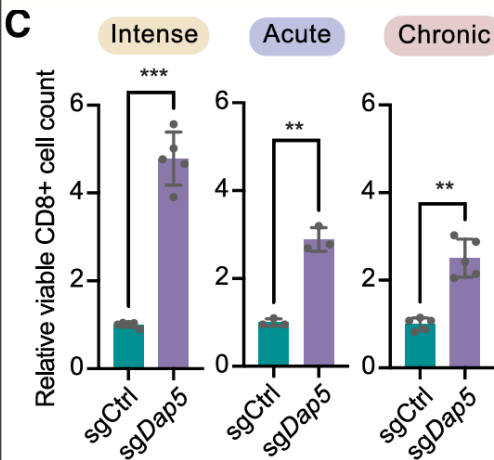
After identifying potential gene "hits" in CRISPR screens, researchers needed a highly accurate and reproducible method to validate these findings by quantifying viable T-cell numbers under various stimulation conditions.

CASY's Contribution:

The CASY Cell Counter and Analyzer was chosen for its objective, label-free measurement of viable cells based on electrical current exclusion. CASY's precise data, comparable to flow cytometry with counting beads, demonstrated that knocking out the Dap5 gene significantly increased viable T-cell counts under intense, acute, and chronic stimulation.

Key Benefits to Researchers:

- **Unmatched Accuracy:** Obtain the precise cell counts required to achieve statistical significance and confidently validate gene knockout effects.
- **Label-Free Analysis:** Assess cell viability based on membrane integrity without dyes or labels, saving time and eliminating potential artifacts.
- **High-Throughput Efficiency:** Rapidly and objectively analyze multiple gene targets and conditions in parallel, accelerating functional validation.
- **Reliable Validation of Genomic Screens:** Generate the robust proliferation data essential to confirm findings from functional genomic screens.



CASY's Precise Viable Cell Counts Confirm Increased T-Cell Numbers Upon Dap5 Inactivation Under Various Stimulation Conditions

Figure 2. (C) Viable cell number under indicated stimulation conditions