# TVA™
## Non-Radioactive NK/ADCC Assessment

Traditionally, Natural Killer (NK) cell-mediated lysis of K562 tumor cells has required laborious, time consuming, radioactive Chromium Release Assays (CRA). No longer! **Introducing *TVA™ (Target cell Visualization Assay),*** a fast, simple, non-radioactive, direct-imaging-based Natural Killer Assay from Cellular Technology Limited (CTL).

### Assay Principle

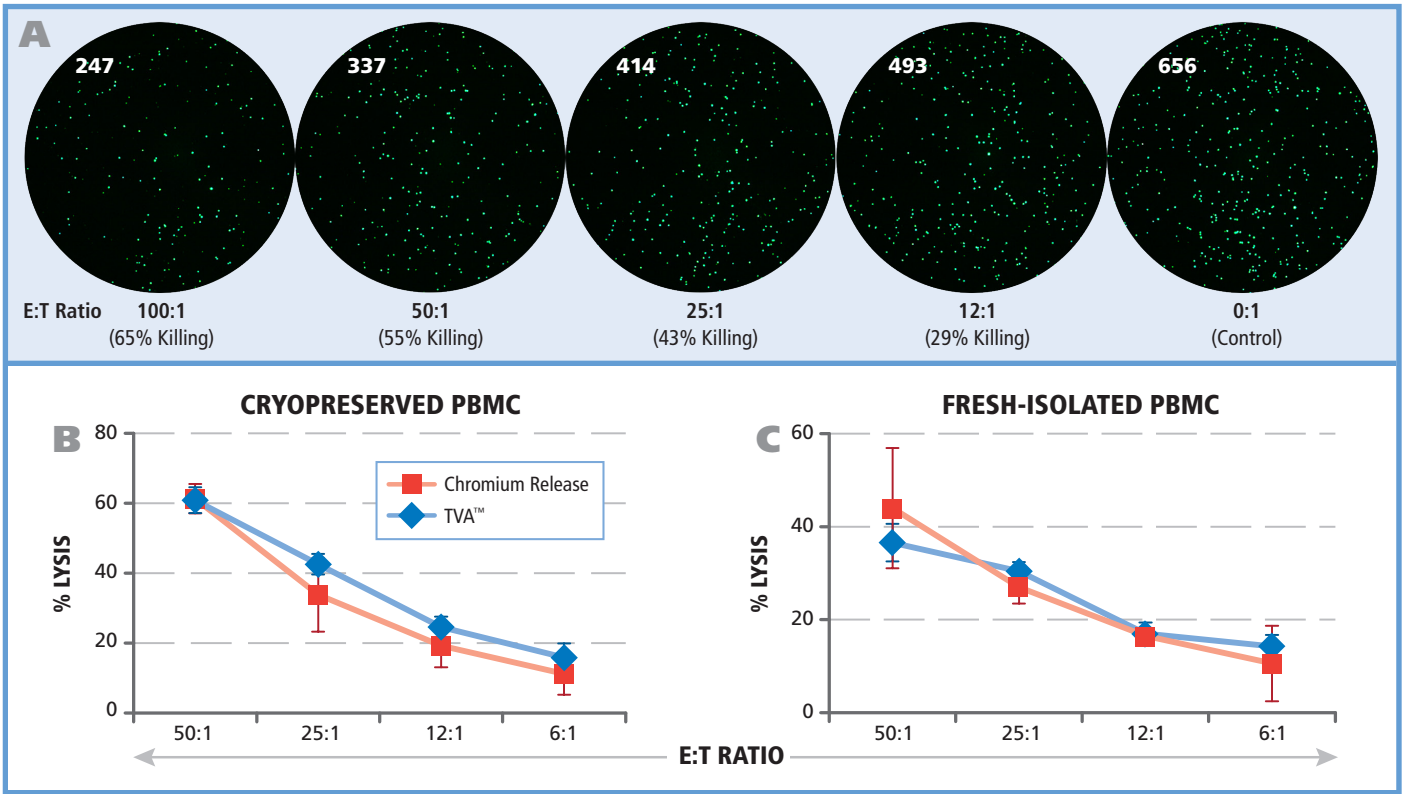
The TVA™ utilizes direct imaging of fluorescence-labeled target cells.

Labeled K562 tumor cells are co-incubated with Peripheral Blood Mononuclear Cell (PBMC) populations containing NK cells at varying Effector- (PBMC) to-Target (K562) cell ratios. Following NK-mediated lysis, target cells lose their fluorescent signal. The direct visualization of remaining viable target cells at the end of an assay period determines the percentage of cytotoxicity for each E:T ratio.

### Assay Sensitivity

The TVA™ has no background noise, has high inter-assay repeatability, intermediate precision, and provides audit trails.

The TVA™ and CRA when performed in parallel with cryopreserved PBMC or freshly-isolated PBMC as effectors and labeled K562 as target cells, exhibited equivalent sensitivity in a 96-well plate assay. However, the TVA™ is far less labor-intensive and requires a fraction of the investigator's time.




**Representative images from the TVA™ are shown (A). Comparison to CRA using cryopreserved (B) and freshly-isolated (C) PBMC exhibit equivalent results.**

# C.T.L. TVA™: Non-Radioactive NK/ADCC Assessment

## TVA™ vs. Chromium Release Assay (CRA)

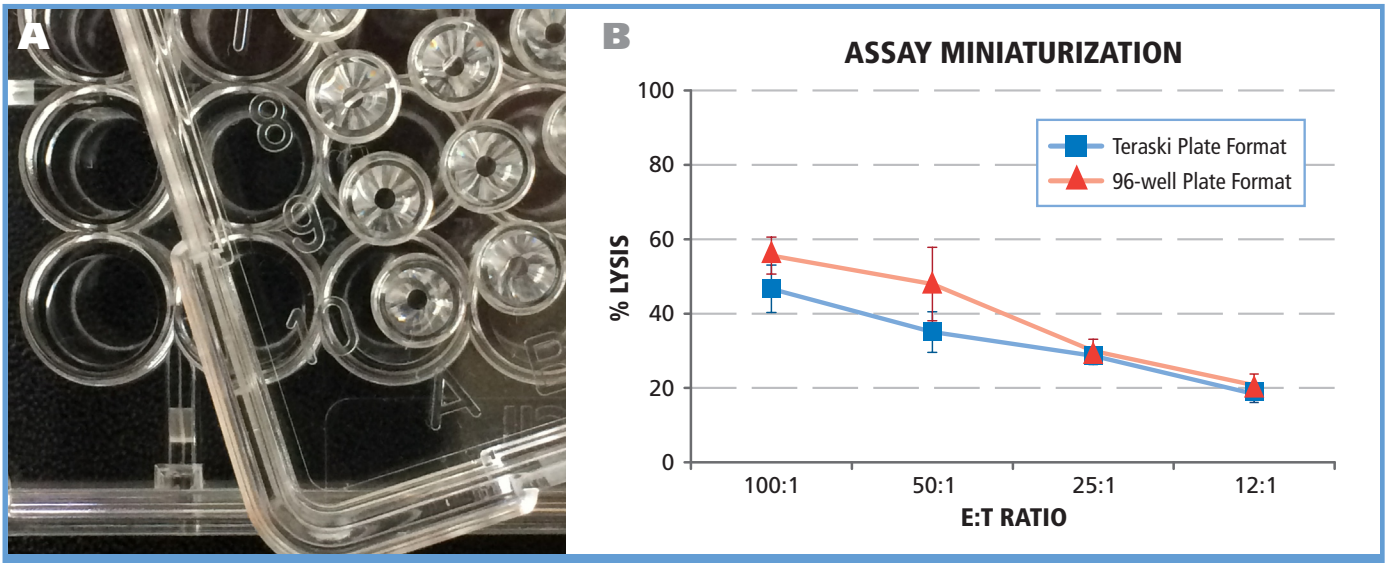
| Features and Benefits | TVA™ | CRA |
|---|---|---|
| Non-Radioactive | ✔ | ✖ |
| Direct Visualization of Results | ✔ | ✖ |
| Number of Cells Required | $10^6$ Cells (for 96-well format) and $1x10^5$ (for Terasaki format) | $2x10^6$ Cells |
| Background Noise | ✖ | ✔ |
| Labor Intensive | ✖ | ✔ |
| Ability to Transfer Multiple Wells During Plate Transfers | ✔ | ✖ |
| Isolation of NK Cells | ✖ | Preferred |
| Automated Analysis and Evaluation | ✔ | ✖ |
| Audit Trails | ✔ | ✖ |
| Reference Effector Controls (PBMC) Available | ✔ | ✖ |
| Assay Kit Available | ✔ | ✖ |
| Assay Consultation Available | ✔ | ✖ |

## Assay Miniaturization

A major drawback of traditional cytotoxicity assays is that they require large numbers of effector cells to detect cytotoxic effects. The TVA™ can be performed in a miniaturized format, requiring only $1x10^5$ PBMC for assessment of seven E:T ratios in Terasaki plates run in triplicate. The measured percentage of lytic activity is similar to that observed with 96-well plate formats.

**Detection of Natural Killer-mediated Cell Cytotoxicity does not have to be complicated. Join the community of researchers using the TVA™.**

**Contact us today for a demo!**




Terasaki plates are shown overlaid on 96-well plates (A). The TVA™ provides reproducible results when performed in either of the plate formats (B), allowing the miniaturization of the assay, thereby using only 1/10th of the effector cells.



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