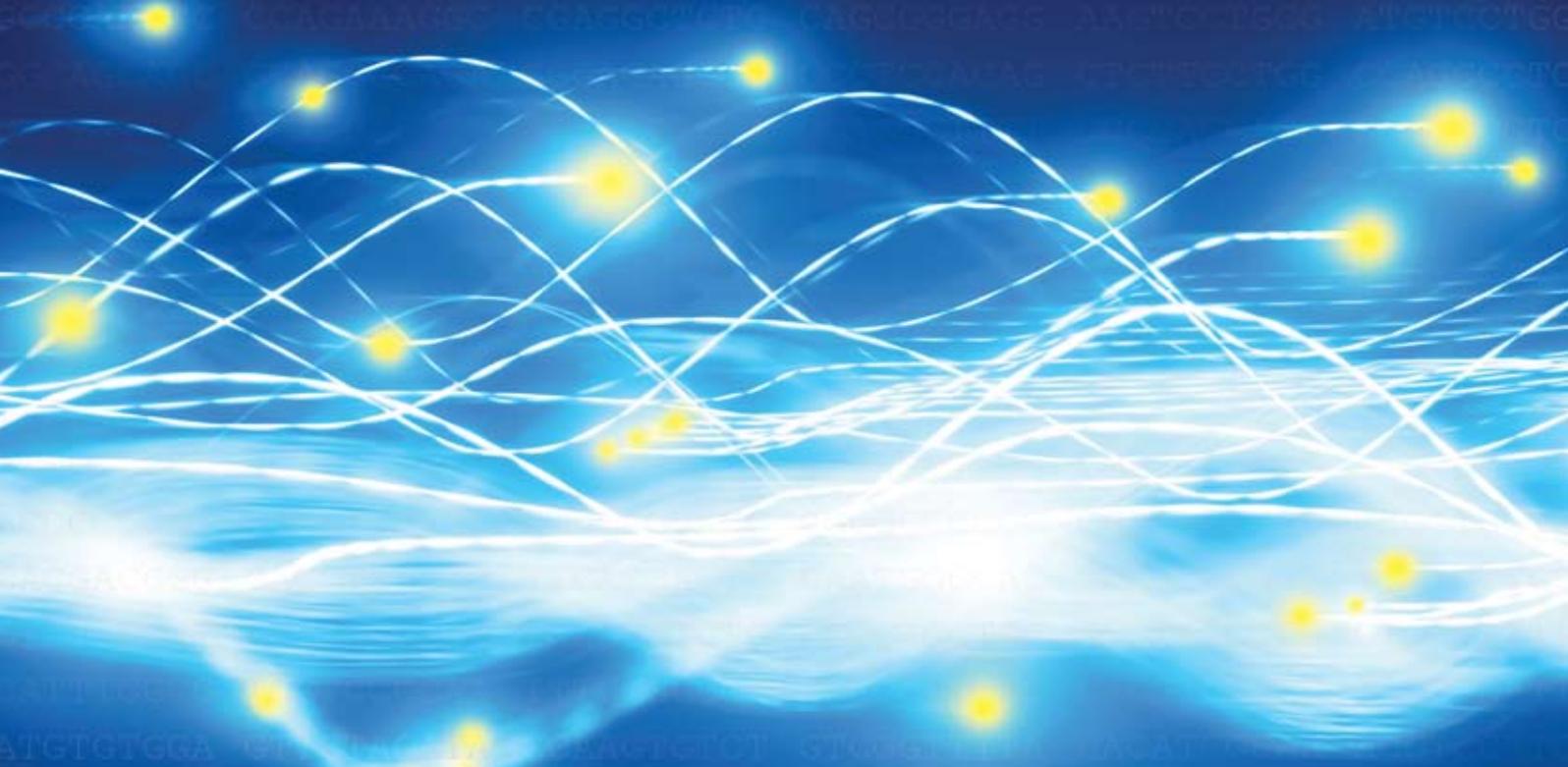


# ViaLight® Plus Cell Proliferation Assay vs. MTT

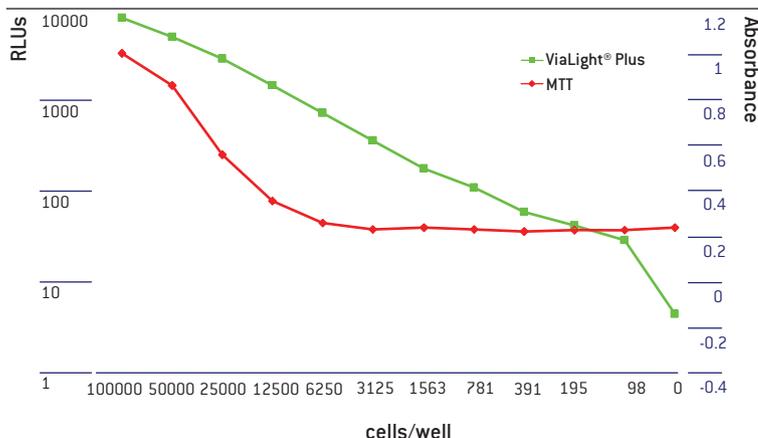
Why wait hours for misleading data when you could have accurate data in <20 minutes?



ViaLight® Plus Cell Proliferation and Cytotoxicity BioAssay Kits are faster, more sensitive, and exhibit minimal interference from background or compounds compared to MTT

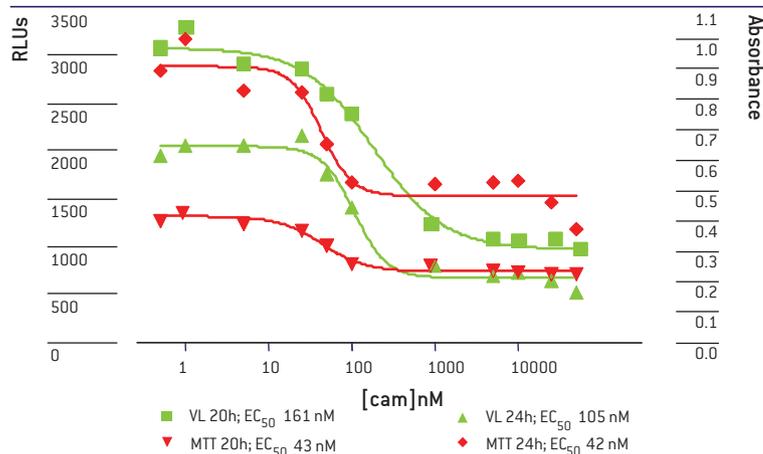
	ViaLight® BioAssay Kit	Formazan dyes (MTT, MTS, XTT, CellTiter96®)
Assay time:	<20 minutes	>1.5 hours to 24 hours
Sensitivity:	10 cells/well	1000 cells/well (2 hour minimum incubation)
Background:	Negligible	High
Sensitivity affected by cells metabolic rate:	No	Yes
Compound interference:	Minimal	Extensive, including cell culture media, DTT, reducing compounds, light, epirubicine, paclitaxel, doetaxel, cisplatin, dopamine, catecholamines, etc.

## ViaLight® Kit is more sensitive



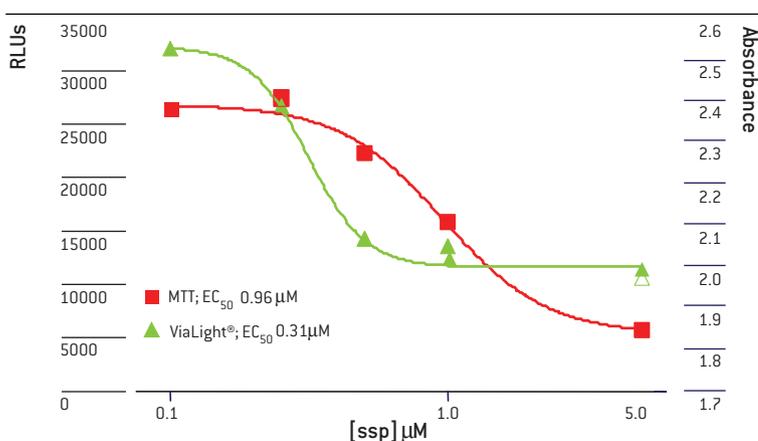
U937 cells were serially diluted in complete RPMI Medium to produce the cell numbers shown. The cells were assayed using CellTiter 96® (Promega; MTS assay) and ViaLight® Plus Kit (n=4). As the cell number decreases, the MTS Assay loses sensitivity and only detects >5,000 cells/well. The linearity of this MTS Assay seems to be between 5000-50,000 cells/well in this model. ViaLight® Plus shows linear detection up to 100,000 cells/well and a sensitivity <100 cells/well.

## MTT over-estimates compound toxicity



U937 cells were dosed with camptothecin for 19 hours prior to measuring them with ViaLight® Plus and an MTS Assay. The cells were assayed 1 hour and 4 hours after the addition of MTS (20 and 24 hour respectively). Due to the lack of sensitivity of the MTS Assay, a proportion of the cells which are still viable remain undetected. This implies that the compound applied is more toxic when measured with MTS shown by the lower EC<sub>50</sub> as the baseline is artificially high. (This is further indicated by the change in the EC<sub>50</sub> indicated by the ViaLight® Kit in the 24 hour sample).

## MTT performs poorly with rapidly metabolizing cells



A similar experiment was conducted using A549 cells dosed with staurosporine for 48 hours. These are very metabolically active human lung carcinoma cells. These cells metabolized the formazan dye in the MTS Assay very efficiently. This gave the appearance of more viable cells present in the assay and shifted the EC<sub>50</sub> in the other direction making it higher than the one generated using ViaLight® Plus Kit.

## Ordering Information

Cat. No.	Size
<b>ViaLight® Plus Cell Proliferation and Cytotoxicity BioAssay Kit</b>	
LT07-221	500 tests
LT07-121	1,000 tests
LT07-321	10,000 tests
<b>ViaLight® HS Cell Proliferation and Cytotoxicity BioAssay Kit</b>	
LT07-211	500 tests
LT07-111	1,000 tests
LT07-311	10,000 tests
<b>ViaLight® MDA Plus Microbial Proliferation and Cytotoxicity Kit</b>	
LT07-122	1,000 tests
LT07-322	10,000 tests

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 P53-0806-X-2 04/09

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