

## IN CYTOTOX

# LDHe-XTT-NR

## APPLICATIONS

Combined colorimetric assays for the quantification of the membrane integrity, mitochondrial metabolism, and lysosomal integrity and activity of cells in response to pharmaceutical, chemical and environmental compounds, and nutrients.

## PRINCIPLE

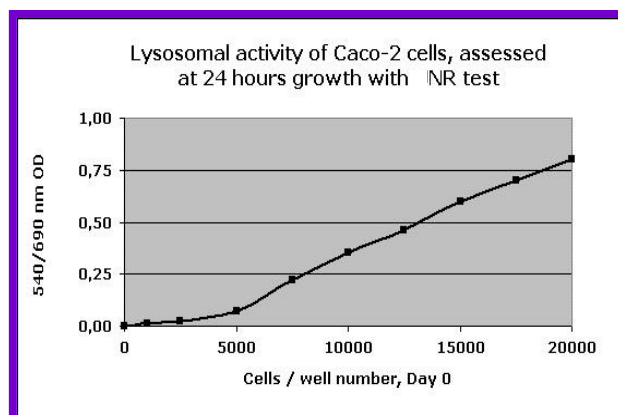
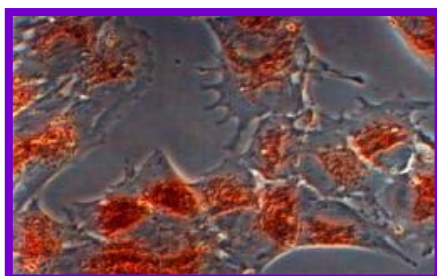
This kit allows to measure sequentially three cytotoxicity parameters in one single cell culture: Membrane integrity (**LDHe: Extracellular Lactate Dehydrogenase**), mitochondrial activity (**XTT: Tetrazolium Hydroxide**), and lysosomal integrity and activity (**NR: Neutral Red**).

Released LDH, a marker for cell damage, is determined kinetically in the medium (NADH consumption). XTT is reduced in the cells to formazan by mitochondrial succinate dehydrogenase. The reduction rate is measured and correlates with mitochondrial activity. The neutral red (NR) assay procedure is based on the ability of viable cells to incorporate and bind neutral red within lysosomes.

Unlike some other LDHe assays, the In Cytotox LDHe assay measures the oxidation of NADH to NAD<sup>+</sup> and the concurrent reduction of pyruvate to lactate. By providing an excess of pyruvate in the reaction mixture, the In Cytotox LDHe assay is therefore insensitive to pyruvate in the culture medium, which can cause product inhibition of the reverse reaction implemented in other LDHe assays.

## BIOLOGICAL PARAMETERS EVALUATION

- IC<sub>50</sub> (Inhibitory Concentration 50%)
- Membrane integrity
- Respiratory chain activity
- Lysosomal activity



# TECHNICAL SPECIFICATIONS

- Absorbance:**
- LDHe: 340 nm
  - XTT: 480 (optimum) or 450 nm
  - NR: 540 nm
  - (Recommended reference filters: 690 nm)
- Approximate assay time (total):**
- 6 hr 20 if LDH incubation is done in parallel with XTT incubation.
- Available kit configurations:**
- Reagents only
  - Reagents and 96-well microplates, sterile reagent reservoirs
- LDHe- XTT- NR Kit content:**
- Buffer solutions
  - Enzyme solution
  - Stop solution
  - Substrate solutions
  - Activator solution
  - Labeling solution
  - Wash solutions
  - Solubilization solutions
  - Fixing solutions
  - Instruction manual

## LDHe-XTT-NR -KIT SIZES AND REFERENCE NUMBERS

REFERENCE NO.	NUMBER OF TESTS
AKLEXR 96.300	3 x 300
AKLEXR 96.1200	3 x 1200

**Kits with plasticware (microplates and reservoirs) are also available.  
Individual reagents and other kit sizes available upon request.**

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