

## Cell Proliferation Kit II (XTT)

Cat. No. 11 465 015 001 2500 tests

<b>Type</b>	Colorimetric, microplate format
<b>Useful for</b>	Quantitation of cell viability, proliferation, or cytotoxicity
<b>Samples</b>	Adherent or suspension cell cultures
<b>Method</b>	Incubation of cells with XTT, followed by spectrophotometric assay of colored product
<b>Time</b>	4 h

**Significance of kit:** The Cell Proliferation Kit II (XTT) measures the metabolic activity of viable cells. The assay is nonradioactive and can be performed entirely in a microplate. It is suitable for measuring cell proliferation, cell viability, or cytotoxicity.

**Test principle:** The assay is based on the reduction of the tetrazolium salt XTT by viable cells in the presence of an electron coupling reagent. The reaction produces a soluble formazan salt. The procedure involves:

- 1 Culturing the cells in a 96-well microplate, then incubating them with XTT solution for approx. 4 h. During this incubation period, viable cells convert XTT to a water-soluble formazan dye.
- 2 Quantitating the formazan dye in the microplate with an ELISA plate reader. The absorbance directly correlates with the cell number.

**Can be used to assay:**

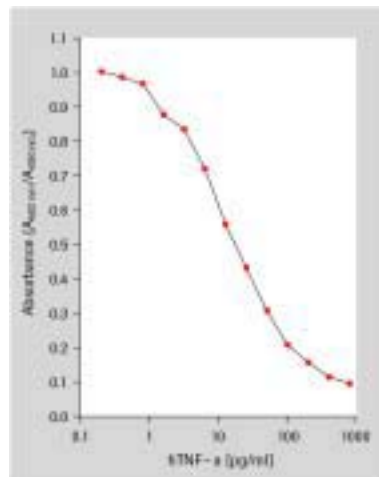
- Adherent and suspension cells cultured in microplate.

**Kit contents**

1. XTT Labeling reagent
2. Electron-coupling reagent

**Note:** To prepare XTT labeling mixture, mix XTT labeling reagent with electron-coupling reagent prior to use.

**Typical results:** see Figure 57 and 58.



◀ **Figure 57: Measurement of human tumor necrosis factor  $\alpha$  (hTNF $\alpha$ ) activity on the mouse fibrosarcoma cell line WEHI-164.** After preincubation of the cells ( $1 \times 10^6$ /ml) with actinomycin C ( $1 \mu\text{g}/\text{ml}$ ) for 3 h, cells ( $5 \times 10^4$ /well) were incubated in the presence of actinomycin C and various amounts of hTNF $\alpha$  for 24 h. The cellular response was analyzed by Cell Proliferation Kit II (XTT).

**Other applications:** For more examples of how the Cell Proliferation Kit II (XTT) can be used in the lab, see Appendix, pages 144–146.