

VectaCell™ Trolox

(antifade reagent for live cell imaging)

Cat. No.	CB-1000
Storage	2-8 °C
Amount	2 ml
Concentration	100 mM (in ethanol)

Trolox Solution is an antifading additive for live cell imaging. It is a stock solution of the antioxidant Trolox (6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid) in filtered ethanol. Trolox is a water-soluble and cell-permeable analog of vitamin E that efficiently prevents formation of different reactive oxygen species, such as singlet oxygen ($^1\text{O}_2$), superoxide anion (O_2^-) or hydrogen peroxide (H_2O_2). Trolox Solution contains both Trolox and its oxidized form, Trolox-quinone. This redox system reduces photo-bleaching and blinking during live cell imaging.^{1,2}

Trolox has been shown to have a cytoprotective effect and low cytotoxicity for a number of cell lines.³

Instructions for use

Dilute the Trolox Solution into culture media or imaging buffer to a final concentration between 0.1 mM and 1 mM.

Notes

The optimal working concentration of Trolox in imaging media will depend on the cell type and their tolerance to hypoxia.

For cells that have low tolerance to hypoxia, or can be affected by the addition of ethanol, the appropriate controls should be included in the assay.

References

1. Rasnik I, et al. 2006. Nonblinking and long-lasting single-molecule fluorescence imaging. *Nat. Meth.*
2. Cordes T, et al. 2009. On the Mechanism of Trolox as Antiblinking and Antibleaching Reagent. *J. Am. Chem. Soc.*
3. Wu TW, et al. 1990. The cytoprotective effect of Trolox demonstrated with three types of human cells. *Biochem. Cell Biol.*

