

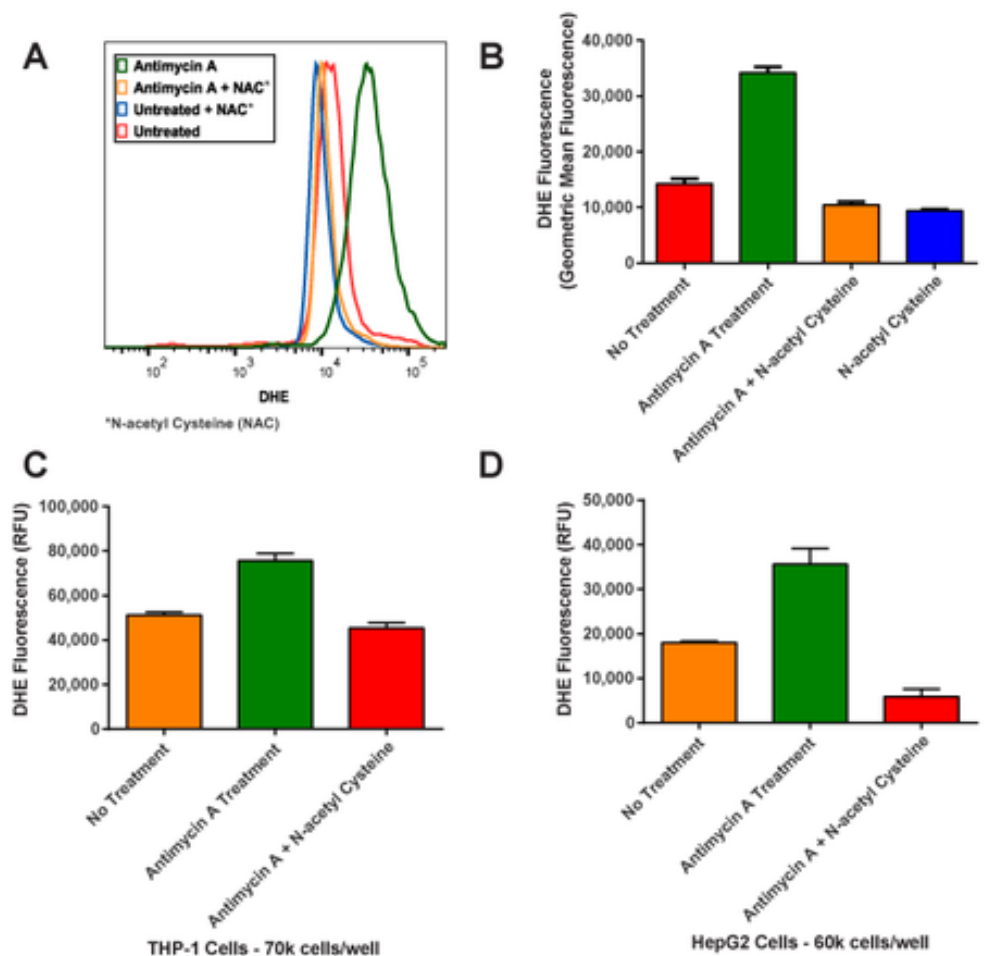


ROS Detection Cell-Based Assay Kit (DHE)

Features

- Measures ROS directly in live cells
- Specificity for superoxide and hydrogen peroxide
- Includes positive control for ROS generation and a negative control for ROS scavenging
- Flow- and plate-based methods

Dihydroethidium (hydroethidine or DHE) is a widely used ethidium-based, redox-sensitive fluorescent probe. DHE has been shown to be oxidized by superoxide to form 2-hydroxyethidium (2-OH-E+) (ex 500-530 nm/em 590-620 nm) or by non-specific oxidation by other sources of ROS to form ethidium (E+) (ex 480 nm/em 576 nm).^{1,2} Given their narrow spectral range, distinguishing between the two species using filter-based optical systems is often difficult and can lead to misreporting of the species of reactive oxygen species (ROS) being generated. This assay kit uses DHE as a fluorescent probe for the detection of ROS generation. Antimycin A, an inhibitor of complex III of the mitochondrial electron transport chain, is included as a positive control for ROS generation. N-acetyl Cysteine is included as an antioxidant control.



Panels A-C show example data of THP-1 cells treated with controls and stained using protocol for suspension cells. Panel D shows example data for HepG2 cells treated with control compounds and stained using the protocol for adherent cells. It is important to conduct optimization experiments for every cell type and experimental condition as cell types often vary.

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