Product Data Sheet

# OxiSelect™ 96-Well Alkaline Halo Assay Slide

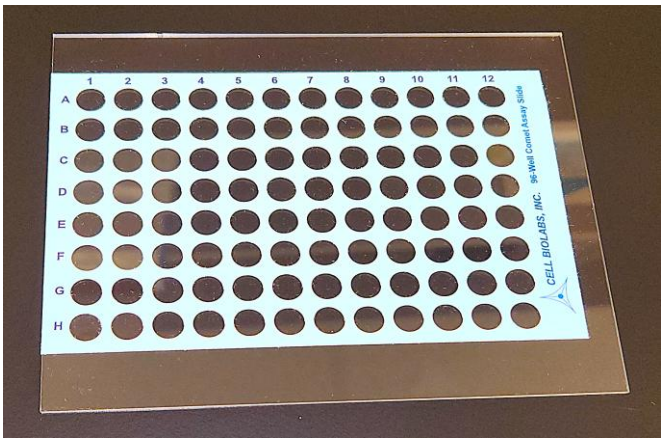
**CATALOG NUMBER:** STA-896 **STORAGE:** Room Temperature

**SHELF LIFE**: 1 year from receipt under proper storage conditions

## Background

DNA damage, due to environmental factors and normal metabolic processes inside the cell, occurs at a rate of 1,000 to 1,000,000 molecular lesions per cell per day. While this counts for only a small part of the human genome's approximately 6 billion bases (3 billion base pairs), unrepaired lesions to critical genes can impede a cell's ability to carry out its function and appreciably increase the likelihood of cancer.

Sestili and Cantoni (see Ref. 1) developed a novel technique, the alkaline-halo assay (AHA), which allows the measurement of DNA damage at the single-cell level. The AHA is based on the observation that osmotically driven radial diffusion of damaged DNA fragments through the pores of an agarose bed is an inverse function of the size of the DNA fragments. The term 'Halo' refers to the shape of radially diffused DNA fragments from isolated nuclei. The AHA presents some advantages with respect to the comet assay, it does not use electrophoresis to separate damaged DNA from undamaged DNA, but a short, post-lysis incubation in an alkaline hypotonic buffer. As a consequence, this method is simpler and more rapid than the comet assay, although the comet assay is still a more sensitive method for detecting DNA damage.




## Application

Cell Biolabs' OxiSelect™ 96-Well Halo Assay Slides are specially treated for the adhesion of low-melting agarose used in the alkaline halo assay. These slides may be used in conjunction with reagents found in our OxiSelect™ 96-Well Alkaline Halo Assay Kit (Cat. #STA-895) or with your own halo assay reagents.

## Example of Results

The following figures demonstrate typical OxiSelect™ Alkaline Halo Assay Kit results. One should use the data below for reference only. This data should not be used to interpret actual results.

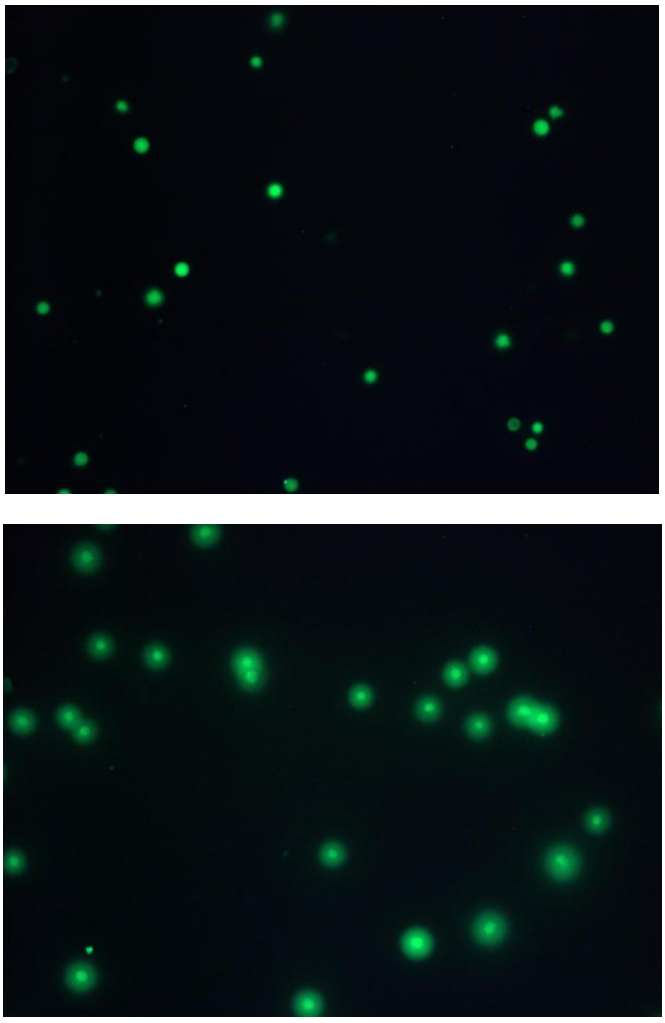


**Figure 1. $H_2O_2$ Treatment of 293 Cells.** 293 cells were untreated (top) or treated (bottom) with 1 mM $H_2O_2$ for 30 min before performing the Alkaline Halo Assay (STA-890).

## References


1. Sestili P., and Cantoni O. (1999) *Free Radic. Biol. Med.* **26**, 1019-1026.
2. Ostling, O., and Johanson, K. J. (1984). *Biochem. Biophys. Res. Commun.* **123,** 291–298.
3. Sestili P., Martinelli C., and Stocchi V. (2006) *Mutat Res* **607**, 205–214.


## Warranty

## Contact Information

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