OxiSelect™ 10-Well Comet Assay Slides

CATALOG NUMBER: STA-853 **STORAGE:** Room Temperature

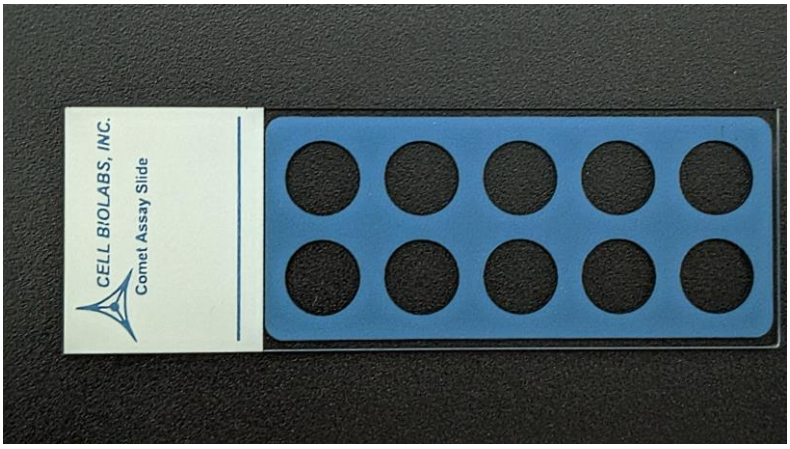
QUANTITY AND CONCENTRATION: 25 slides per box

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.

The comet assay, or single cell gel electrophoresis assay (SCGE), is a common technique for measurement of DNA damage in individual cells. Under an electrophoretic field, damaged cellular DNA (containing fragments and strand breaks) is separated from intact DNA, yielding a classic "comet tail" shape under the microscope. Extent of DNA damage is usually visually estimated by comet tail measurement; however, image analysis software is also available for measuring various parameters.



Application

Cell Biolabs' OxiSelect™ 10-Well Comet Assay Slides are specially treated for the adhesion of low-melting agarose used in the comet assay. These slides may be used in conjunction with reagents found in our OxiSelect™ Comet Assay Kit (Cat. #STA-850) or with your own comet assay reagents.

Example of Results

The following figures demonstrate typical results. One should use the data below for reference only. This data should not be used to interpret actual results.

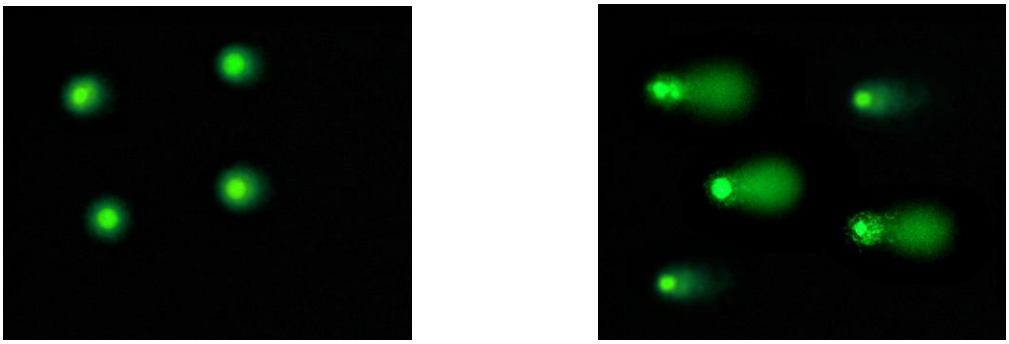


Figure 1. Etoposide Treatment of Jurkat Cells. Jurkat cells were untreated (left) or treated (right) with 20 µM Etoposide for 4 hours before performing Comet Assay (alkaline electrophoresis conditions, 33 V/300 mA for 15 minutes).

References

1. Ostling, O., and Johanson, K. J. (1984). Micro gel electrophoretic study of radiation induced DNA damages in individual mammalian cells. *Biochem. Biophys. Res. Commun.* **123,** 291–298.

2. Singh, N. P., McCoy, M. T., Tice, R. R., and Schneider, E. L. (1988). A simple technique for quantification of low levels of DNA damage in individual cells. *Exp. Cell. Res.* **175,** 184–191.

3. Olive, P. L., Banath, J. P., and Durand, R. E. (1990a). Heterogeneity in radiation induced DNA damage and repair in tumor and normal cells using the "Comet" assay. *Radiat. Res.* **122,** 86–94.

4. De Boeck, M., Touil, N., De Visscher, G., Vande, P. A., and Kirsch-Volders, M. (2000). Validation and implementation of an internal standard in Comet assay. *Mutat. Res.* **469,** 181–197.

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