

## OxiSelect™ 3-Well Comet Assay Slides

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**CATALOG NUMBER:** STA-352

**STORAGE:** Room Temperature

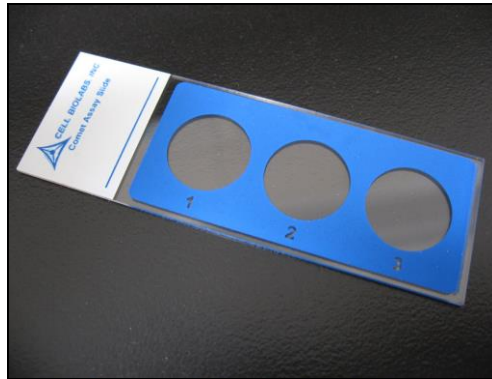
**QUANTITY AND CONCENTRATION:** 5 slides per box

**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.

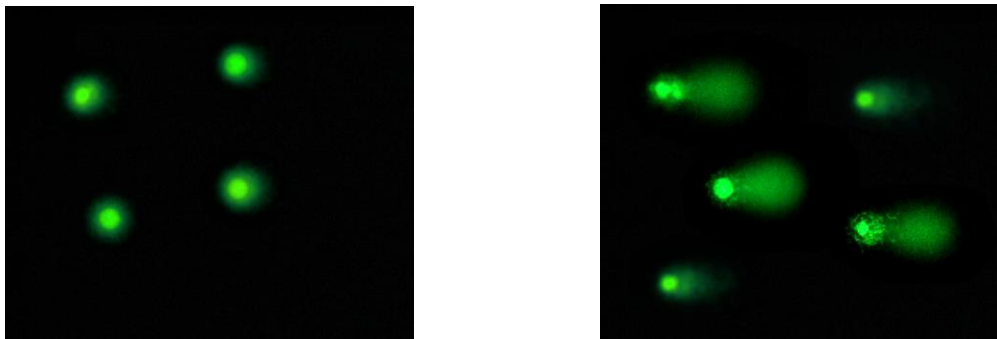


### **Application**

Cell Biolabs' OxiSelect™ 3-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-350) 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  $\mu$ M 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.

### Recent Product Citations

1. Benoit, Y.D. et al. (2021). Targeting SUMOylation dependency in human cancer stem cells through a unique SAE2 motif revealed by chemical genomics. *Cell Chem Biol.* doi: 10.1016/j.chembiol.2021.04.014.
2. Maksimova, V. et al. (2021). HeLa TI cell-based assay as a new approach to screen for chemicals able to reactivate the expression of epigenetically silenced genes. *PLoS One.* **16**(6):e0252504. doi: 10.1371/journal.pone.0252504.

### Warranty

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***This product is for RESEARCH USE ONLY; not for use in diagnostic procedures.***

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