

OxiSelect Comet Assay Kit

OxiSelect Comet Assay Kit (3-Well Slides)

CATALOG #
AAA44582

PRODUCT SYNONYMS

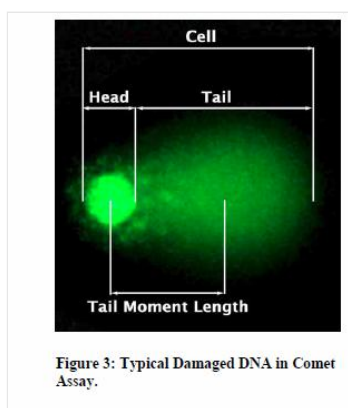
OxiSelect Comet; OxiSelect Comet Assay Kit (3-Well Slides); OxiSelect Comet assay kit

PRODUCT SPECIFICATIONS

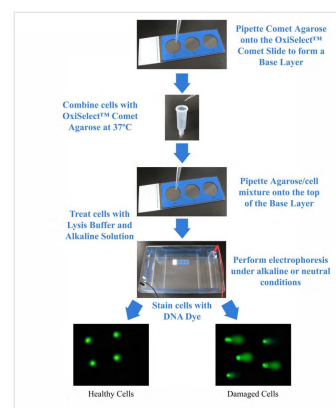
Preparation and Storage

Upon receipt, store the Vista Green DNA Dye at -20 degree C. Store all other kit components at room temperature until their expiration dates.

IMAGES



Application Data



Application Data

ADDITIONAL INFORMATION

Related Product Information for OxiSelect Comet assay kit

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. The OxiSelect™ Comet Assay is a fast and sensitive kit for the measurement of cellular DNA damage. Each kit provides sufficient reagents to perform up to 15 assays.

Principle of the Assay: OxiSelect™ Comet Assay is a single cell gel electrophoresis assay (SCGE) for simple evaluation of cellular DNA damage. First, individual cells are mixed with molten agarose before application to the OxiSelect™ Comet Slide. These embedded cells are then treated with a lysis buffer and alkaline solution, which relaxes and denatures the DNA. Finally, the samples are electrophoresed in a horizontal chamber to separate intact DNA from damaged fragments. Following electrophoresis, the samples are dried, stained with a DNA dye, and visualized by epifluorescence microscopy. Under these conditions, the damaged DNA (containing cleavage and strand breaks) will migrate further than intact DNA and produce a "comet tail" shape (see Figure 1). Each kit provides sufficient reagents to perform up to 15 assays.

Product Categories/Family for OxiSelect Comet assay kit	Oxidative Stress/Damage ; DNA/RNA Damage and Repair ; Comet Assay Kits and Slides
References	1. Ostling, O., and Johanson, K. J. (1984). Biochem. Biophys. Res. Commun. 123, 291-298. 2. Singh, N. P., McCoy, M. T., Tice, R. R., and Schneider, E. L. (1988). Exp. Cell. Res. 175, 184-191. 3. Olive, P. L., Banath, J. P., and Durand, R. E. (1990a). Radiat. Res. 122, 86-94. 4. De Boeck, M., Touil, N., De Visscher, G., Vande, P. A., and Kirsch-Volders, M. (2000). Mutat. Res. 469, 181-197. 1. Wang, L. et al. (2014). Osmotic Stress-induced Phosphorylation of H2AX by Polo-like Kinase 3 Affects Cell Cycle Progression in Human Corneal Epithelial Cells. J Biol Chem. 289:29827-29835. 2. Savage, K.I. et al. (2014). BRCA1 Deficiency Exacerbates Estrogen-Induced DNA Damage and Genomic Instability. Cancer Res. 74:2773-2784. 3. Wu, A. et al. (2013). Cell Motility and Drug Gradients in the Emergence of Resistance to Chemotherapy. PNAS. 110:16103-16108. 4. Luo, Y. et al. (2013). SMC1-Mediated Intra-S-Phase Arrest Facilitates Bocavirus DNA Replication. J. Virol. 87:4017-4032. 5. Li,Y.J. et al. (2012). Gold Nanoparticles as a Platform for Creating a Multivalent Poly-SUMO Chain Inhibitor that also Augments Ionizing Radiation. PNAS. 109:4092-4097. 6. Li, H.F. et al. (2011). A High-Throughput Screen with Isogenic PTEN+/+ and PTEN-/- Cells Identifies CID1340132 as a Novel Compound that Induces Apoptosis in PTEN and PIK3CA Mutant Human Cancer Cells. J. Biomol Screen. 16:383-393.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/assay-kits/oxiselect-comet/44582>