

Ozone Control Systems for Microarray Labs

Improves Data Quality and Reproducibility

Why Control Ozone?

Ozone is a by-product of industrial pollutants that can destroy cyanine and other fluorescent dyes used with microarray samples. Studies have shown that ozone levels in ambient lab air as low as 20 ppb can negatively affect array data. Eliminating ozone is essential to assay reproducibility (1,2). Other studies show that dyes are particularly sensitive to ozone during post-hybridization processing and during extended wait times in laser scanners. Degraded dyes can lead to varying results, confounding patient diagnostic outcomes (3).

NoZone® Workspaces Protect Data from Ozone Effects

NoZone Workspaces are a reliable solution for controlling ozone during microarray washing and scanning. The Workspaces use a high efficiency ozone filtration system to continuously pump ozone-free air through a benchtop polycarbonate enclosure. The workspaces achieve and maintain safe ozone levels below 5 ppb within a few minutes after closing the doors.

Three NoZone Systems are available for controlling ozone from array washing to scanning:

NoZone® WS Workspace

The original NoZone WS Workspace provides an ozone-safe environment for operating the Little Dipper® Processor during ozone-sensitive array washing and drying. It features a single, wide flip-top door with hand accessible opening for working inside the enclosure.



The NoZone® WS Workspace maintains ozone levels below 5 ppb when washing and drying microarrays.

NoZone® TL Workspace

The tall NoZone TL model accommodates the Agilent DNA Microarray Scanner. The enclosure features two side-by-side doors that swing away to provide unimpeded access to the scanner. It also can accommodate other scanners or the Little Dipper Microarray Processor.



The NoZone® TL Workspace maintains an ozone-safe environment for the Agilent DNA Microarray Scanner.

NoZone® GP Workspace

The small NoZone GP Workspace is specifically designed for all GenePix scanners (MDS Analytical Technologies) including the Models 4000A and B and 4200AL series. The enclosure can be easily positioned over the scanner on the benchtop. The enclosure features two side by side doors for easy access to the scanner.



The NoZone® GP Workspace ensures ozone-safe scanning of arrays with GenePix scanners.

References

1. Elimination of laboratory ozone leads to a dramatic improvement in the reproducibility of microarray gene expression measurements. Branham, WS, et al. BMC Biotechnol. 2007 Feb 12;7:8.
2. Effects of atmospheric ozone on microarray data quality. Fare, TL, et al. Anal Chem 2003 Sep 1;75(17):4672-5.
3. Automated Laboratory Solutions for Performing High-volume Array CGH. Sundin, K, et al. American College of Medical Genetics 2008 Mar 15.