

# Smart Notes

Durable 2D barcode etched onto the bottom of each tube for long-term sample identification

Sample Storage

**Q** Can 2D barcoded tubes resist DMSO and will they produce successful barcode reads following exposure to 100% DMSO solution?

**A** **Yes.** Thermo Scientific™ Matrix™ 2D barcoded tubes are able to withstand exposure to common laboratory chemicals and abrasion during handling and storage, yielding successful barcode reading for sample identification and robust storage.

Stored samples often are exposed to a range of laboratory solutions and conditions during their storage life. From benchtop use to automated handling and sample retrieval, it is common for sample tubes to come into contact with harsh chemicals and other severe conditions. Situations of this nature may impact the integrity of the storage container or interfere with the ability to identify a sample using its 2D barcode. The robust design of Matrix 2D barcoded tubes protects both the samples and their unique identifier, the 2D barcode. Manufactured using a patented process, Matrix 2D barcoded tubes feature a permanent 2D barcode that is both guaranteed to be unique and readable, regardless of storage conditions.



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## Can Matrix 2D-barcoded tubes stand up to exposure to DMSO followed by abrasion?

### Exposure of Matrix 2D barcodes to 100% DMSO tubes for various lengths of time

Each well of a 96-well microplate was filled with 100µl 100% DMSO solution. Samples of a variety of 2D-barcoded tubes representing different lots and tube formats were placed standing vertical in each well to allow complete submersion of the barcode in DMSO. At time points of one, two, and 24 hours, the tubes were removed. The tube bottoms and microplate wells were visually inspected, and the bottom of each tube was rubbed with a standard paper towel to dry. Once dry, each tube was placed on a Thermo Scientific VisionMate ST reader to attempt a barcode read.

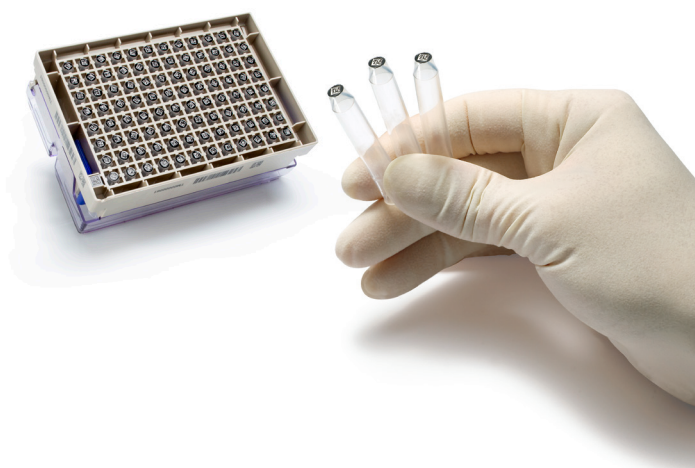
### Visual inspection of Microplate wells containing 100% DMSO and Tube 2D barcodes

After one hour of exposure, visual inspection of the 2D barcode on tubes did not indicate any physical damage or change to the barcode quality or contrast. The DMSO solution did indicate a small amount of black colorant transfer. There was also no change in 2D barcode quality per visual inspection at two- and 24-hour time points..

### 2D Barcode Reading following abrasion of tubes exposed to 100% DMSO

Following visual inspection of microplate wells containing DMSO and tubes' 2D barcodes at one-, two-, and 24-hour time points, the tubes were rubbed on a standard paper towel to dry, visually inspected and read on the VisionMate ST barcode reader. No physical damage was observed after 2D code abrasion, although there was a small amount of black colorant transferred to the paper towel surface.

During 2D barcode reading all samples could be successfully read with the VisionMate ST barcode reader.



### Summary

Matrix 2D barcodes can be successfully read following exposure to 100% DMSO solution with and without abrasion that may be introduced during routine laboratory use and handling.



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