

Microplates

Deepwell LumaPlate™-96

96-Well, White, Scintillator coated



Description

The Deepwell LumaPlate-96 is a solid scintillator coated, 96-well microplate that eliminates the need for adding LSC cocktail. This deepwell version has a sample working volume of 300 µL. For analysis of non-volatile samples, simply dispense samples into the standard Deepwell LumaPlate wells, dry down and count on a microplate scintillation counter, such as the Perkin-Elmer TopCount® or MicroBeta®.

The LumaPlate's solid scintillator simplifies single and dual label CPM/DPM counting by eliminating variable chemical quench and in addition dramatically reduces total cost per sample. Deepwell LumaPlates are particularly suitable for samples produced from ⁵¹Cr release assays, enzyme inhibition assays, organic extractions, chromatography fractions, and capillary electrophoresis fractions. Bar coded microplates are also available.

Features & Benefits

- Sample volumes of up to 300 µL
- Very low backgrounds for greater sensitivity
- High counting efficiency for greater sensitivity
- No variable chemical quench for maximum signal output
- Easy to use with reproducible results
- No liquid radioactive waste - reduces disposal costs

▶ ISOTOPIC	FLUORESCENCE
COLORIMETRIC	LUMINESCENCE

Material	Polystyrene
Sterile	No
Lids	No
Tissue culture treated	No
Filter type	Not applicable
Bar code	Optional
White writing area	Not applicable

Typical Applications

- HPLC fraction analysis
- Larger sample volumes (up to 300 µL)
- Enzyme inhibition assay
- ⁵¹Cr release assay

Recommended Companion Products

Microplate sealing:

- TopSeal™-A 6005185
- TopSeal-S 6005161
- MicroMate™ heat sealing system (for TopSeal-S)

Instrumentation:

- TopCount Microplate Scintillation and Luminescence Counter
- MicroBeta Microplate Scintillation and Luminescence Counter

Ordering Information

Deepwell LumaPlate-96, 96-well, White, Scintillator Coated

Case of 50 **6005630**

Bar code labeled Deepwell LumaPlates are available.
Contact your local PerkinElmer representative for details.

Technical Information

Material:

Polystyrene with white colorant.
Scintillator layer on well bottom.

Dimensions (Tolerances):

Length	127.76 mm	(± 0.25 mm)
Width	85.47 mm	(± 0.20 mm)
Height	14.60 mm	(± 0.13 mm)
Well diameter	7.15 mm	
Well depth	10.80 mm	
Well volume (nominal)	400 µL	
A1 offset to top	11.24 mm	(± 0.08 mm)
A1 offset to side	14.38 mm	(± 0.08 mm)

Experimental Results

The chromatogram below (Figure 3) shows the result of two HPLC runs of the same rat urine. Curve B represents a 100 µL injection with 61,500 DPM of ³H labeled drug and its metabolites measured on-line using the Perkin-Elmer Radiomatic™ Model 505TR flow scintillation analyzer. Curve A represents a 7 µL injection with only 4,300 DPM of total radioactivity measured off-line in a Deepwell LumaPlate-96 with the TopCount system. For better visualization, the upper curve of A was also expanded by a factor of five. When comparing the classical on-line and the new off-line approaches, it becomes clear that curve A shows much more detail than does curve B. In addition to using a 14-fold smaller injection volume, the TopCount/Deepwell LumaPlate-96 combination provides better sensitivity because of a much lower background, while maintaining very high counting efficiency. On a blank Deepwell LumaPlate-96, the background was determined to be only 0-2 CPM. Every count above 4 CPM can be interpreted as a valid tritium signal. It should also be noted that all peak intensities in both curves (A and B) compare well to each other. The main metabolite at a retention time of 16.5 minutes is clearly visible in both curves (A and B). This peak measured by the TopCount shows a better chromatographic resolution than the on-line chromatogram.

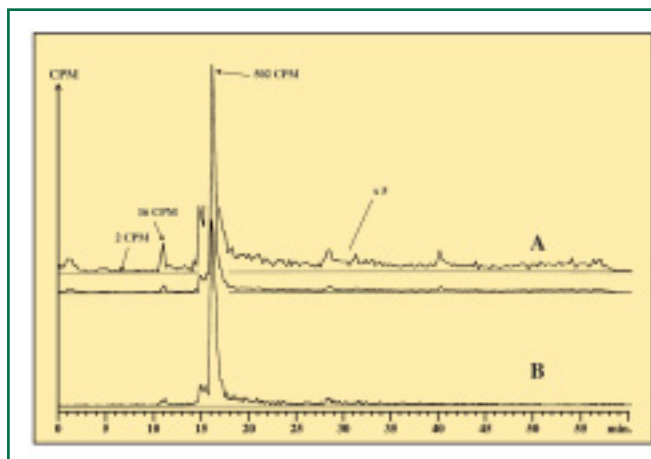
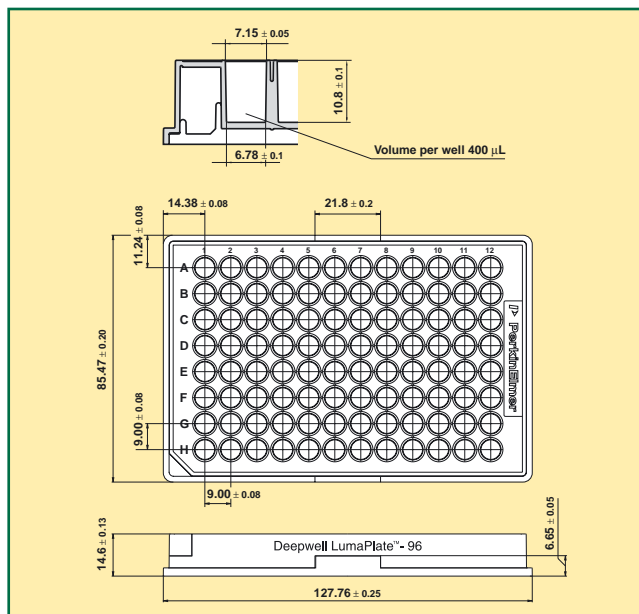


Figure 3: Radioactivity chromatogram of rat urine containing ³H labeled drug;

- A= 4300 DPM (7 µL) injected and counted with the TopCount system (8 minutes per well).
- B= 61500 DPM (100 µL) injected and monitored on-line with adding 800 µL LSC-cocktail to a 100 µL mixing cell.

Reference: Packard Application Note AN004-TC



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