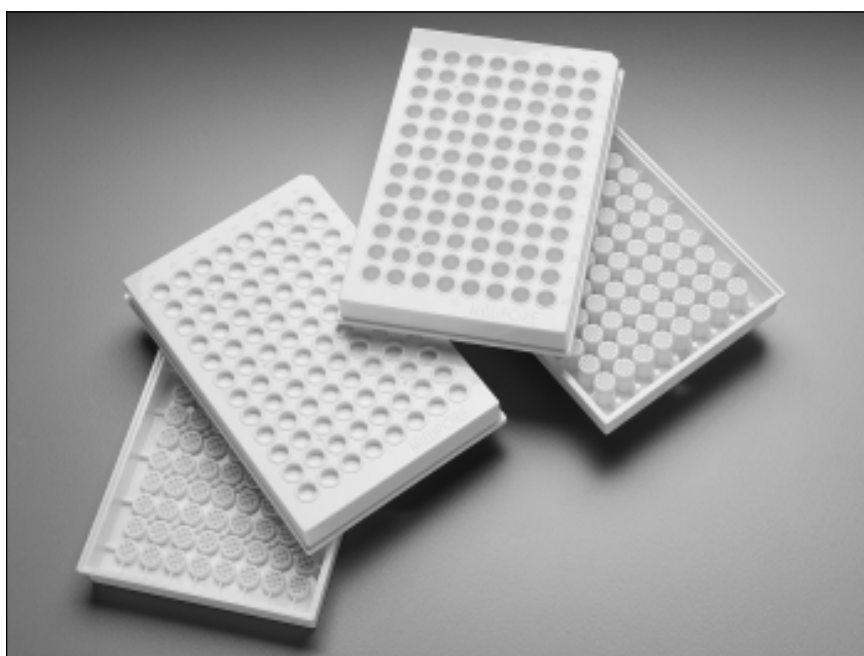


MultiScreen Harvest Plates

■ 96-well Plates for all Cell Harvesting Applications

Introduction

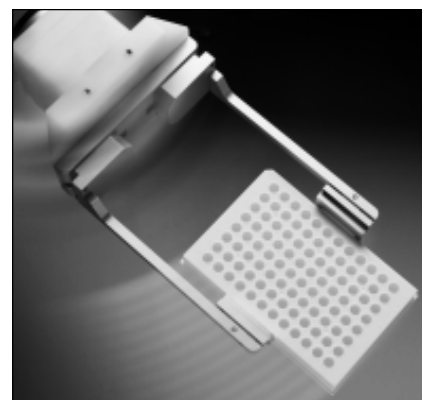
Millipore's MultiScreen® Harvest Plates are easy-to-use 96-well plates specifically designed and optimized for cell harvesting applications. Like other MultiScreen plates, our Harvest Plates have individual wells — totally eliminating reagent crosstalk. MultiScreen Harvest Plates meet all Society for Biomolecular Screening (SBS) Level 3 specifications and operate in cell harvesting, counting and robotic manipulations to meet industry standards and expectations. The Harvest Plates can be used with standard 96-well plate cell harvesters (e.g., from Brandel Co., Packard Instruments, TomTec Inc., or Wallac OY) and in 96-well microplate readers (e.g., the Packard TopCount™ and Wallac MicroBeta® instruments). Millipore offers the plates in both nominal 100 μ L and 300 μ L well capacity in either glass fiber B or C, the same glass fiber used in MultiScreen Assay Plates.



MultiScreen Harvest Plates, showing top and bottom of both sizes.

Total Robotic Compatibility

MultiScreen Harvest Plates meet all specifications for SBS Level 3. External walls of rigid plastic and a recessed bottom surface ensure robotic arm ease of handling and stacking either one atop the other or in standard "hotels". Whether operating in a conventional harvester or on a robot or workstation, MultiScreen Harvest Plates provide the consistency in handling and performance needed for high throughput assays.



MultiScreen Harvest Plate on robotic system.

MILLIPORE

Both 100 μL and 300 μL Well Capacity

MultiScreen Harvest Plates come in nominal 100 μL well size, designed for Packard TopCount microplate scintillation counting, and nominal 300 μL well size, optimized for Wallac MicroBeta counters. The Harvest Plates have been validated with cell harvesters sold by Brandel, Packard, TomTec, and Wallac. Harvesters specific to the well volume must be used. Plates of either well capacity can be counted in either a Wallac MicroBeta or a Packard TopCount. See Table 1 for counting efficiency and signal to noise data.

Use a Consistent Filter from Target Identification to HTS

The Type B or Type C Glass Fiber filters in the Harvest Plates are the same high quality, high flow, binderless glass fiber filters available in Millipore's MultiScreen Assay Plates. Customers have the convenience of using the same filter material in assay development and then for cell harvesting in High Throughput Screening.

Complete Product Offering

With MultiScreen Harvest Plates, you choose the filter type **and** the well volume you need to optimize each assay for both filtration and detection. Shallow well plates provide maximum efficiency for Packard TopCount readers and standard well plates provide maximum efficiency when counting in the Wallac MicroBeta. All are available from one source, Millipore.



MultiScreen Harvest Plate in cell harvester.

Nominal Well Size	Product	Residual Mass $\mu\text{g}/\text{Well}^a$	% ^3H Counting Efficiency ^b	^3H Ratio Signal/Noise ^c	% ^{125}I Counting Efficiency ^d	^{125}I Signal/Noise ^e
100 μL	MultiScreen Harvest 1H, FC	17	32.7	30:1	22.3	149:1
	MultiScreen Harvest 1H, FB	19	38.5	38:1	20.1	147:1
300 μL	MultiScreen Harvest 3H, FC	12	18.2	294:1	19.1	183:1
	MultiScreen Harvest 3H, FB	20	17.2	210:1	21.9	211:1

Table 1: Comparison of MultiScreen Harvest Plate Performance for Available Plate Types

^a Mass increase after harvest and wash cycle of 12–15 μg precipitated protein. Value is proportional to residual liquid hold-up volume left in plate.

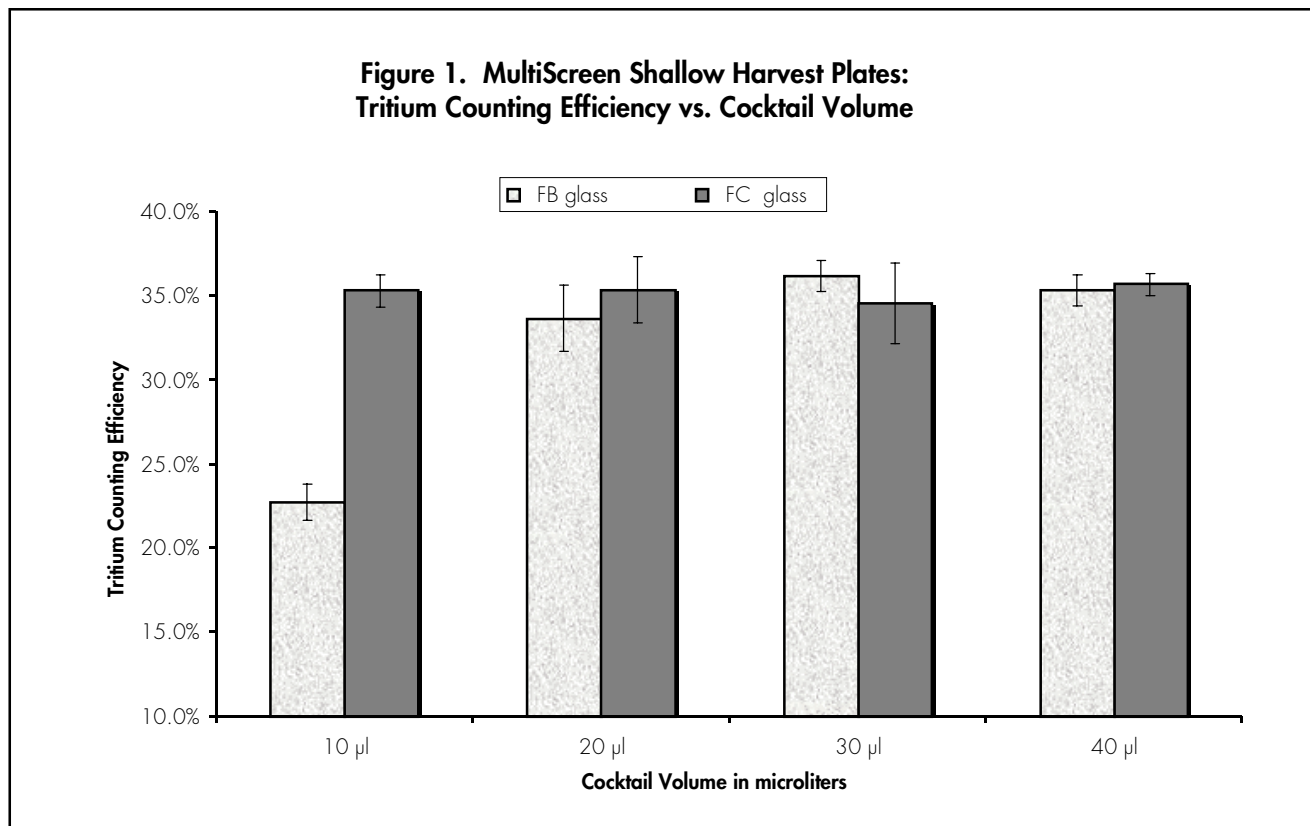
^b Counting efficiency with ^3H -thymidine at 10,000 DPM initial loading. All plates counted in Wallac MicroBeta. 100 μL plates counted using top-detector only. 300 μL plates counted in coincidence mode. Separate normalizations for each plate type were created. Average of 72 wells for signal.

^c Signal to noise ratio determined using 72 wells for signal, loaded at 10,000 DPM and 24 wells of background.

^d ^{125}I Efficiency determined with labeled BSA at 10,000 DPM loaded to each of 72 wells. Cross-talk correction was utilized. There was no loss of efficiency incurred with the cross-talk correction.

^e Signal to noise ratio determined using 72 wells for signal, loaded at 10,000 DPM and 24 wells of background. Again, cross-talk correction was used.

**Figure 1. MultiScreen Shallow Harvest Plates:
Tritium Counting Efficiency vs. Cocktail Volume**



Proven Performance You Can Count On

MultiScreen Harvest Plates have uniform flow rates at high particulate loads, no reagent crosstalk, and high counting efficiencies. The high open area of the plastic membrane support, coupled with the maximum glass fiber in each well, assures maximum filtration rate and maximum particulate capacity. High counting efficiency is achieved in either top-counting or coincidence-counting mode.

The unique individual well design assures physical isolation of each sample and prevents lateral migration of scintillation cocktail from one well to another. This design also minimizes optical crosstalk, since there is no light path through the plastic. This means no physical crosstalk EVER and very limited optical crosstalk.

Table 1 shows performance data on MultiScreen Harvest Plates. Residual Mass measures the fluid left behind after harvesting. 12–15 µg of protein was loaded to each well. Efficient fluid removal results in more rapid drying and higher efficiencies, especially with tritium. Counting efficiencies and signal/noise ratios with ³H and ¹²⁵I demonstrate superior performance. Millipore uses specially developed quality assurance methods to test every lot for uniform filtration capacity and to assure that the plate captures the material flowing through the filter without by-pass.

Optimizing Performance

MultiScreen Harvest plates can be directly substituted into your current harvesting protocols. In general, harvest flow rates, wash conditions, etc., need not be changed.

For optimum counting efficiency, dry plates at 50°C for one hour. Drying increases ³H counting efficiency by 50% or more. For counting in a MicroBeta, Supermix® scintillant at 20 µL/well is recommended. For counting in TopCount, use 20 µL of MicroScint® 20.

Figure 1 shows ³H efficiency for varying scintillant levels in shallow plates. For Glass Fiber C, no improvement in efficiency is realized by loading more than 20 µL. For Glass Fiber B, 20–30 µL is recommended. In data not shown, efficiency increased from one hour to 24 hours time between scintillant addition and counting. 24 hour data is shown.

MultiScreen Harvest plates are designed exclusively for cell harvesting. They are not recommended for use on the MultiScreen vacuum manifold.

Strong Technical Support

With the addition of MultiScreen Harvest Plates, Millipore now provides a complete line of 96-well filter plates for high throughput screening (HTS) applications. Fill all your HTS filter plate needs in one call. We continue to provide superior technical support, such as an extensive collection of protocols and referenced publications, to ensure customer success.

Product Specifications

Height: 0.565"

Length: 5.03"

Width: 3.36"

Filter Area (effective): 0.33 cm²

% Open Area (light transmission in coincidence counting):

100 µL plates: 26%

300 µL plates: 30%

Pore Size Rating

1.0 mm for Glass Fiber B

1.2 mm for Glass Fiber C

Materials of Construction:

Filter: Millipore Glass Fiber B or
Glass Fiber C

Plastic holder: TiO₂ filled SAN

Temperature Limit: 50°C

Ordering Information

Catalogue No.	Description
MAHF B1H 60	FB in nominal 100 µL size (1H), 60/pk
MAHF C1H 60	FC in nominal 100 µL size (1H), 60/pk
MAHS P1H 10	5 each of FC and FB in nominal 100 µL size (1H), 10/pk
MAHF B3H 60	FB in nominal 300 µL size (3H), 60/pk
MAHF C3H 60	FC in nominal 300 µL size (3H), 60/pk
MAHS P3H 10	5 each of FC and FB in nominal 300 µL size (3H), 10/pk
MATA HOP 00	Opaque Tape for sealing plate bottoms for TopCount, 100/pk
MATA HCL 00	Clear Tape for sealing all plate tops and plate bottoms for MicroBeta, 100/pk

Solvent Compatibility

Resistant to all aqueous solutions, including moderate to strong acids, such as TCA (trichloroacetic acid). In addition, the plates are fully compatible with standard bio-safe scintillants, including Wallac Supermix and Packard MicroScint formulations.

Packaging and Sterility

MultiScreen Harvest Plates are non-sterile and come without lid; 60 per package in 6 sleeves of 10 units each. Also available in either 100 µL or 300 µL size are trial packages containing 5 FB and 5 FC plates.

To Place an Order or Receive Technical Assistance

For more information, contact the Millipore office nearest you.

In the U.S. and Canada, call **1-800-MILLIPORE** (1-800-645-5476).

In Puerto Rico, call 809-273-8495.

In Japan, call 03-5442-9716.

In Asia, call 852-2803-9111.

In Europe, reach us by fax at +33 3.88.38.91.95.

Or see your Millipore laboratory catalogue for the phone number of the Millipore office nearest you.

You can also look us up on the Internet at <http://www.millipore.com>. For the most up-to-date information on MultiScreen products, see <http://www.millipore.com/multiscreen>.

Or e-mail us at tech_service@millipore.com.

MILLIPORE

Wallac, MicroBeta and Supermix are trademarks of Wallac Oy.

Packard, TopCount and MicroScint are trademarks of Packard Inst.

Millipore and MultiScreen are registered trademarks of Millipore Corporation or an affiliated company.

Lit. No. PF173 Printed in the U.S.A. 10/98

Copyright © 1998 Millipore Corporation or an affiliated company, Bedford, MA