

MultiScreen[®]_{HTS} Glass Fiber Filter Plates

384- and 96-well plates incorporate optimized glass fiber for assays including receptor-ligand binding

- ▶ Plate designs meet ANSI/SBS 2004 standards for microwell plates
- ▶ Optimized for receptor-ligand binding assays
- ▶ Easy scale-up from 96-well to 384-well assays
- ▶ High density formats conserve reagents and increase throughput

Innovative Plate Design

MultiScreen_{HTS} filter plates with glass fiber filter provide a proven solution for drug discovery applications. The plates are fully compatible with automation and are designed to meet the 2004 ANSI/SBS standards for multiwell plates.

The new HTS design for both 96- and 384-well plates incorporates rigid sidewalls aligned for easy handling by robotic gripper arms. They also provide ample surfaces for bar code labels.

The plate features protect the underdrain and eliminate surface contact with individual well "drip directors". The plastic skirt enables stacking directly with collection plates and improves the vacuum seal when used with a Millipore vacuum manifold.

Optimized for High Performance Drug Discovery

High throughput MultiScreen_{HTS} filter plates are optimized for high throughput bioassays. The plates incorporate glass fiber filter to support a range of applications including receptor-ligand binding and precipitation assays such as soluble receptor, enzyme and protein kinase.

For optimal results, use with a MultiScreen_{HTS} vacuum manifold (Millipore cat. no. MSVM HTS 00) is recommended.

Most Reliable Tool for Receptor-binding Assays

Filter-based separation technology is widely used to obtain necessary bound vs. free fractions for validation in receptor-ligand binding assays. This is a critical step in lead identification and later lead characterization processes.

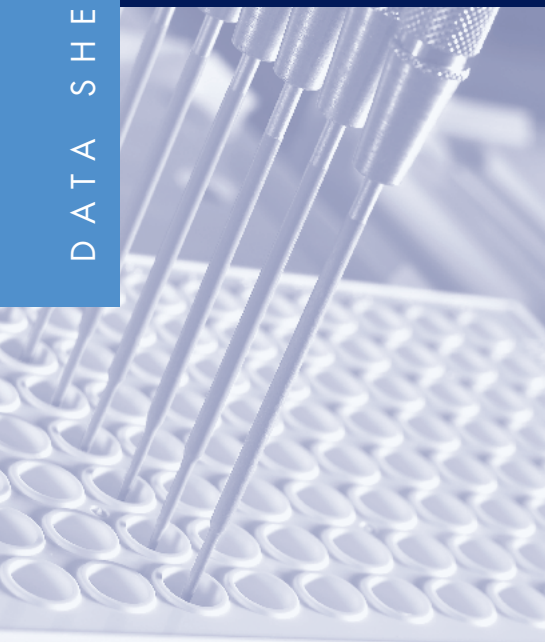
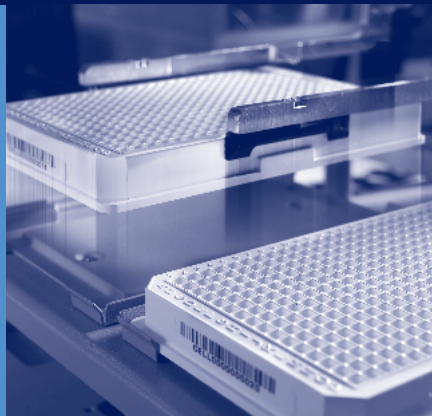
MultiScreen filter plates are recognized as an accurate and reliable alternative to homogenous assays. Glass fiber filters are incorporated to retain the receptor and "bound" ligand fraction.

MultiScreen_{HTS} filter plates are pre-validated for receptor-ligand binding assays. An application note (AN086EN00: High density receptor-ligand binding assays) and protocol (PC1051EN00: High throughput method for in-plate receptor-ligand binding assays and radioisotope counting) are available.

Easy Scale-up from 96-well Platforms

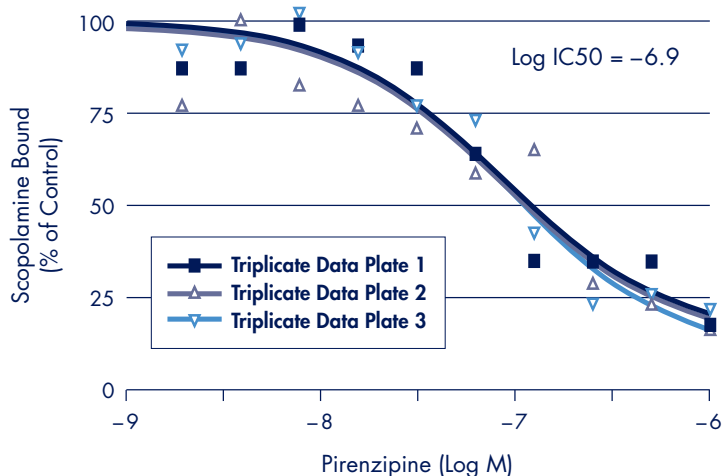
The MultiScreen_{HTS} 384-well filter plate provides a high density platform and offers the reagent-saving benefits of assay miniaturization. The automation-compatible plate is also a simple scale-up from 96-well assays.

Details on scale-up are provided in the receptor-ligand binding application note (AN086EN00: High density receptor-ligand binding assays) and protocol (PC1051EN00: High throughput method for in-plate receptor-ligand binding assays and radioisotope counting).

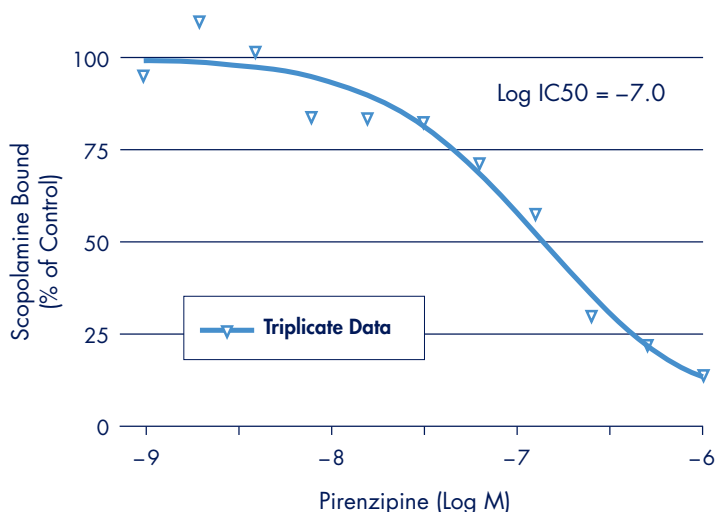


Optimized Design for High Quality Results

384-well Displacement Binding of Human Muscarinic M1 Receptor



96-well Displacement Binding of Human Muscarinic M1 Receptor



Figures 1 and 2. Radioligand binding displacement binding assays were performed with a constant radiolabeled scopolamine concentration (0.6 nM) and serial dilutions of unlabelled pirenzepine as compared to a control binding experiment without unlabelled pirenzepine (% of Control). Top: displacement binding done with 4.38 μ g receptor preparation in 100 μ l using MutliScreen_{HTS} 384-well filter plate. Results presented are from three separate experiments each performed in triplicate wells. Bottom: displacement binding done with 8.75 μ g receptor preparation in 200 μ l using MutliScreen 96-well filter plate. Relative affinity values (IC₅₀) were determined by fitting displacement binding inhibition values by non-linear regression using Prism™ data software. All data points are the average of triplicate experiments. Filter plates were dried prior to the addition of Supermix™ (10 μ l in 384-well plates and 50 μ l in 96-well plates). Counting was done in a MicroBeta® Trilux. NOTE: All counting is done with underdrain on for both 96- and 384-well plates.

Specifications

	MultiScreen _{HTS} 384	MultiScreen _{HTS} 96
Materials of Construction		
Filter material:	Glass Fiber FB or FC	Glass Fiber FB or FC
Support:	Polyester mesh	0.65 µm Durapore® PVDF membrane
Filter plate:	White styrene acrylonitrile (SAN)/TiO ₂	White Barex/TiO ₂
Flow director:	Clear SAN	Natural polyethylene
Plate lid:	Polystyrene	Polystyrene
Dimensions		
Plate assembly length:	127.7 mm	127.7 mm
Plate assembly width:	85.5 mm	85.5 mm
Plate assembly depth (without lid):	14.4 mm	14.4 mm
Plate assembly depth (with lid):	16.9 mm	16.9 mm
Filter surface area:	0.09 cm ²	0.26 cm ²
Sample Volume per Well		
Recommended:	20 – 100 µL	50 – 250 µL
Maximum:	110 µL	300 µL
Recommended Vacuum Pressure		
Filter to waste:	8 – 20" Hg	9 – 18" Hg
Filter to receiver plate:	8 – 10" Hg	8 – 10" Hg
Recommended Centrifugal Force		
	500 – 1000 x g	1000 x g

Ordering Information

Description	Qty/Pk	Catalogue No.
MultiScreen_{HTS} 384-well Filter Plate		
Glass Fiber FB	10	MZFB NOW 10
	50	MZFB NOW 50
Glass Fiber FC	10	MZFC NOW 10
	50	MZFC NOW 50
MultiScreen_{HTS} 96-well Filter Plate		
Glass Fiber FB	10	MSFB N6B 10
	50	MSFB N6B 50
Glass Fiber FC	10	MSFC N6B 10
	50	MSFC N6B 50

Accessories

MultiScreen _{HTS} Vacuum Manifold		MSVM HTS 00
Chemical duty vacuum pump	115 Volts, 60 Hz	WP61 115 60
	220 Volts, 50 Hz	WP61 220 50
Plate sealing tape	Clear	MATA HCL 00
	Opaque	MATA HOP 00
Vacuum flask, 1L		XX10 047 05

Related Information

- PC1051EN00: MultiScreen_{HTS} 384-well Filter Plate: High throughput method for in-plate receptor-ligand binding assays and radioisotope counting protocol note
- AN086EN00: MultiScreen_{HTS} 384-well Glass Fiber Filter Plate: High density receptor-ligand binding assays application note
- PF1544EN00: MultiScreen_{HTS} 96-well Filter Plates Data Sheet
- MM021: The MultiScreen Guide to Filtration-based Enzyme Assays
- MM014: Guidelines for BioAssays on MultiScreen Filter Plates

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