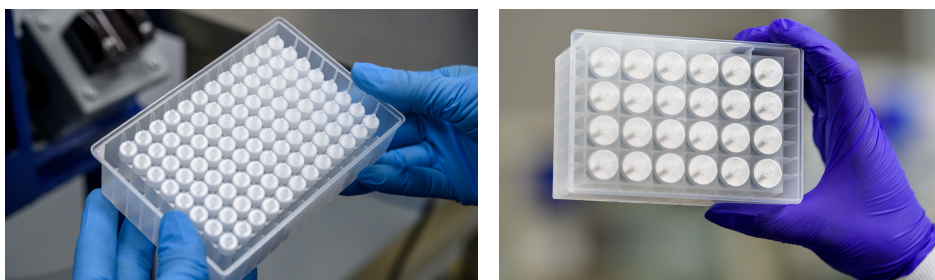


Agilent Polyethylene Filter Microplates



Agilent polyethylene filter microplates can be used in a multitude of high-throughput filtration applications. These filters perform well in protocols where sample debris removal without clogging is needed. Polyethylene membrane filters have excellent chemical compatibility and resistance and can withstand gamma irradiation sterilization. These plates can be used in coarse fractionation and sample preparation for flow cytometry to reduce cell aggregates and clogs.

These polyethylene filter plates are available in 24, 48, 96, and 384 well format, well volumes ranging from 140 μL to 15 mL, and filters in pore sizes of 7 and 25 μm . Corresponding Agilent storage and collection plates are available for pairing.

Microplate design attributes such as filter material, pore size, well shape and size, along with the assay conditions, total volume, and viscosity of reaction components, determine the efficiency of filtration. These plates were tested using Dulbecco's phosphate buffer saline (DPBS) and the processing conditions are listed below. All tested plates were compatible with vacuum filtration and centrifugation process.

Vacuum filtration testing

Dry filter plate weights were recorded, and the testing solution was added to the plates. The volume of testing solution (DPBS) varied based on the well size: 24 well-1 mL, 48 well-0.4 mL, 96 well-0.2 mL, 384 well-0.05 mL. Plates were vacuum-filtered at 10 in. Hg for 1 minute, then weighed again to calculate the residual liquid. Filters were visually inspected for any pinholes, tears, and crimping. Although the filter plates were processed for 1 minute under vacuum to test the effect of negative pressure on the filter material, filtration took place within the first 10 seconds when tested with DPBS. These plates can withstand longer periods of vacuum filtration if needed due to increased viscosity or solutes in the sample.

Centrifugation testing

Dry filter plate weights were recorded, then the testing solution was added. Volumes of testing solution (DPBS) were based on the well size: 24 well-1 mL, 48 well-0.4 mL, 96 well-0.2 mL, and 384 well-0.05 mL. Plates were centrifuged at 1,000 x g for 5 minutes using an Eppendorf centrifuge 5810R and weighed again to calculate the residual liquid. The filter was visually inspected for any pinholes, tears, and crimping. Longer centrifugation times may be required to remove more viscous and dense samples or reagents.

Plates marked with an asterisk in Table 1 were tested using both centrifugation and vacuum filtration. All other plates were tested using vacuum filtration only, as the centrifuge could not accommodate the combined height of the filter plate with the receiving plate.

The testing demonstrated that the Agilent polyethylene filter plates can successfully be used with vacuum filtration and centrifugation processing without resulting in any damage to membrane integrity.

Table 1. Plates were tested using vacuum filtration only, except those marked with an asterisk, which were tested using both centrifugation and vacuum filtration.

Well Number	Part Number	Pore Size (µm)	Well Volume (mL)	Drip Length Type	Centrifugal Force	Vacuum Filtration
384	201035-100*	25	0.14	Long	1,000 x g, 5 minutes	10 in. Hg, 1 minute
96	200919-100	25	2	Long		
	200921-100		2	X-Long		
	200927-100		0.8	Long		
	200939-100*		0.4	Long		
	200953-100		0.8	Long		
	200955-100		0.8	Short		
	200967-100*		0.4	Short		
	200989-100*		0.3	Long		
	200991-100*		0.3	Short		
	201005-100		2	Long		
	201718-100		1	Long		
202501-100	7	0.8	Short			
48	200923-100	25	5	Long		
	200925-100		5	X-Long		
	201003-100		7.5	Long		
24	201415-100	25	15	Long		
	204471-100		10	Long		

* Tested using both centrifugation and vacuum filtration.



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