

TPP Recommendations Medium Volumes in TPP Tissue Culture Vessels

For monolayer cultures, TPP recommends a medium volume to growth area ratio of 0.2-0.5 mL/cm². This corresponds to a height of 2-5 mm medium covering the cells. The upper limit is set by the gaseous diffusion through the liquid layer.

The media height - and thus the volume in the culture vessel - is a critical factor in the oxygen supply for the cells, i.e. the oxygen transfer rate, OTR (Gstraunthaler et al. 1999).

The number of cells on a confluent plate, dish, or flask vary with cell type. For this TPP gives no recommendations, but indicates source of information such as: Freshny R. Culture of animal cells.

1. Tissue Culture Flask

Product No.	Version	Growth area cm ²	Medium recom. mL	Medium max. mL
90025	VENT	25	3 - 8	20
90026	Filter	25		
90075	VENT	75	8 - 22	75
90076	Filter	75		
90150	VENT	150	15 - 45	170
90151	Filter	150		
90300	VENT		30 - 85	280
90301	Filter	300		

2. Tissue Culture Flask with peel-off foil

Product No.	Version	Growth area cm ²	Medium recom. mL	Medium max. mL
90028	Filter	25	3 - 8	20
90078	Filter	75	8 - 15	75
90153	Filter	150	15 – 30	100
90653	Filter, barrier	115	15 – 30	100
90303	Filter	300	30 – 40	280

3. Clipmax

Product No.	Version	Growth area cm ²	Medium recom. mL	Medium max. mL
70010	Filter	10	4 - 6	7

Source: TPP/literature 1/3 Version 01_2022

Note: TPP products are for research use only and not intended for use in clinical, diagnostic or therapeutic procedures. TPP does not assume any guarantee for damages and defects resulting from unregistered or improper use.



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4. Tissue Culture Tube

Product No.	Version	Growth area cm ²	Medium recom. mL	Medium max. mL
91243	Filter	10	2	35
91106	VENT	20	3	15

5. Tissue Culture Test Plate

Product No.	Version	No. of Wells	Growth area cm ²	Medium recom. mL	Medium max. mL
92006					
62106		6	9.026	3 - 5	10
92406					
92012					
92112		12	3.466	1 - 2	5
92412					
92024					
92124		24	1.864	0.5 – 1	3
92424					
92048					
92148		48	0.875	0.19 – 0.29	0.2
92448					
92096					
92196		96	0.322	0.1 – 0.25	0.4
92696					
92097					
92197		96	0.636	0.1 – 0.25	0.4
92697)				

6. Tissue Culture Dish

Product No.	Inner-Ø mm²	Growth area cm ²	Medium recom. mL	Medium max. mL
93040	34	9.2	1,8 - 2,7	4
93060	53	22.1	4,5 - 6,6	15
93100	87	60.1	12 - 18	60
93150	137	147.8	29 - 44	155

Source: TPP/literature 2 / 3 Version 01_2022

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7. TubeSpin® Bioreactor (Suspension Cells)

Product No.	Volume graduation mL	Shaker Ø mm / speed rpm	Medium recom. mL
86050	50	50 / 250	35
87015	15	50 / 250	10
87017	15	50 / 180	10
87050	50	50 / 150	35
87056	50	50 / 150	35
87450	450	50 / 150	250
87600	600	50 / 150	400