

### Surface Areas of Cell Culture Vessels

The following are the surface areas of various tissue culture dishes or plates and their relative size to a 35 mm dish:

Dish Diameter	Actual Area	Calculated Area	Relative to 35 mm Dish
35 mm	10 cm <sup>2</sup>	9.6 cm <sup>2</sup>	1
60 mm	20 cm <sup>2</sup>	28 cm <sup>2</sup>	2
100 mm	60 cm <sup>2</sup>	78.5 cm <sup>2</sup>	6

**Actual Area:** These measurements were determined from actual measurements of common tissue culture vessels and the areas were rounded off.

**Calculated Area:** These values were calculated using the name of the culture vessel as the diameter.

**Relative to 35 mm dish:** This was calculated based on the actual area.

**Area of a circle:** The formula for calculating the area of a circle is: Area = (pi)(r<sup>2</sup>) where pi = 3.1416

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### Growth areas and yields of cultured cells\* in various culture vessels :

Cell culture vessel	Growth area** (actual) in cm <sup>2</sup>	No. of cells***
<b>Multiwell plates</b>		
96	0.3	4-5 X 10 <sup>4</sup>
48	0.7	1.3 X 10 <sup>5</sup>
24	2	2.5 X 10 <sup>5</sup>
12	4	5.0 X 10 <sup>5</sup>
6	10	1.2 X 10 <sup>6</sup>
<b>Dishes</b>		
35 mm	10	1.2 X 10 <sup>6</sup>
60 mm	20	2.5 X 10 <sup>6</sup>
100 mm	60	7.5 X 10 <sup>6</sup>
145-150 mm	140	1.8 x 10 <sup>7</sup>
<b>Flasks</b>		
T25	25	3.1 X 10 <sup>6</sup>
T75	75	9.4 X 10 <sup>6</sup>
T150	150	1.9 X 10 <sup>7</sup>
T162	162	2.0 X 10 <sup>7</sup>
T165	165	2.1 X 10 <sup>7</sup>
40-50 ml	25	3.1 X 10 <sup>6</sup>
250-300 ml	75	9.4 X 10 <sup>6</sup>
650-750 ml	162-175	2.0 X 10 <sup>7</sup>
900 ml	225	2.8 X 10 <sup>7</sup>

\*Such as NIH3T3, HeLa, CHO cells.

\*\*Per well, can vary depending on the supplier. These values were determined from actual measurements of common tissue culture vessels and the values were rounded off.

\*\*\*Assuming confluent growth. (~1.25 X 10<sup>5</sup> cells/cm<sup>2</sup>).