

## How does Petaka derive its benefits? Features & Benefits Analysis:

<b><i>Petaka is Hermetic</i></b>	<b><i>Petaka has a unique Shape/Design/Architecture</i></b>	<b><i>Petaka is made up of unique Material/ Texture</i></b>	<b><i>Petaka is Gas transfer quenching system enabled</i></b>
No Caps and lids, eliminating the risks of culture contamination and cross contamination with incubator, water bath & laboratory environment etc.	A significant space saving concept with a growth of ~ 30 million cells that is possible in a convenient pocket size device with even less than 20 ml of media.	Surface of Petaka made up of Corona-treated crystal polystyrene contains distant molecules that acts as gas permeable membrane and provides the auto-respirable atmosphere for growth of cells. Avoids the need of expensive environment controlled incubators that also saves the cost.	Allows gas exchange without issues like bubbling, foaming etc. Keeps the gas & liquid separated, to avoid any distension.
No need of Laminar/ Hood. Completely bio-safe to the researchers. Unlike T-flasks no exposures like moving from hood to incubator or any effects of incubator's environment.	The handling is easy, efficient & effective reducing the several steps of working with T-Flasks. Moreover due to a tiny size it has a far better incubator storage ratio thus saving lab-personnel time & saving capital costs of buying incubators.	Auto-sealing silicon port allows easy penetration with plastic and metal tips up to 1 mm external diameter so there is no exposure of media to outside environment and hence further reduces the contamination.	Allows very low amounts of CO2 in and out and therefore additional CO2 is not required, avoiding the need for CO2 incubators.
No exposure to culture during the inoculation. Hence no contamination .No wastage of time or queuing up to use the Laminar Air Flow Hood. Decreases the steps of tissue culture protocol. Virtually no chance of Mycoplasma / pathogen load through airborne contact keeping culture medium sterile.	Diffusion Barrier decreases the chances of microbial progression through the port slit significantly. Elimination of any back pressure through mini-tube, avoids leaks through the port slit.	Silicon Port also allows easy sterilization with ethanol and flame so avoids the cross contamination between the cultures.	It provides the cells with a gradually decreasing oxygen concentration in the media, within the physiological limits of living tissues as if it is in a natural growth curve.
No need of water pan or humidity saturated incubator. Self-regulated and not influenced by environmental dehydration which enables the cells inside Petaka to be stored for long time.	Filters the air that flows from the internal chamber to the environment No escape of any viruses and infectious cells leading to Bio-containment.	Air Filter Port (0.2 microns) helps in interaction of internal chamber with the external atmosphere and maintains the CO2 and O2 balance.	Petaka G3 offers the researcher complete freedom of sample manipulation even in very low oxygen hypoxic conditions, without breaking the hypoxic environment at any time.

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<p>Supports <b>in situ applications of all kinds</b>. Helps easy visualization of the cell growth, their kinetics, morphology, in-vivo studies such as any marker studies, apoptosis, research work etc.</p>	<p>Can place several Petakas in an <b>incubator at a time</b> due to its mini size which helps in increasing work efficiency.</p>	<p>The filter is made of polytetrafluoroethylene combined with 100% polypropylene support components that filters in and out air, avoiding microbial contamination from the atmosphere.</p>	<p>The <b>pH is controlled</b> in a closed and stable environment which is extremely favorable for cell growth.</p>
<p><b>Simplifies various operations</b> like cell growth, cell concentration, freezing, in-vitro dormancy, transportation, microscopic studies etc.</p>	<p>The shape is flat &amp; thin thus making <b>easy visualization of cell growth patterns</b>, record their kinetics, correlate morphology &amp; complete in situ studies such as marker studies, apoptosis research work etc.</p>	<p>With Petaka, grown cell cultures can be maintained alive at room temperature, without dehydration risk, for long time periods</p>	<p>An <b>auto-regulation of Carbon dioxide</b> Thus maintaining CO2 &amp; O2 balance. The special monitoring &amp; skills to oversee CO2 levels are not required.</p>
<p><b>Avoids media displacement</b>, media waving and bubbling /gas perfusions.</p>	<p>Its slim shape permits easy packaging and protection in envelopes, thus making it <b>ideal for shipping and transport</b> without freezing and dry ice.</p>		<p><b>No hazards related to CO2 filling systems and CO2 Cylinders</b>. This saves cost &amp; keeps carbon levels down thus promoting bio-safety. This enables safe handling as well as a reduction in turnaround time and overall equipment cost.</p>
<p>No spillage on materials and the work surface.</p>	<p><b>An integrated micro-channel system</b> protects the internal environment, avoiding unwanted water evaporation.</p>		
	<p>Industrial future applications-</p> <p>Over 2000 Petakas can work together in a small space &amp; can raise 60 billion cells from just 40 liters of media.</p>		