

### Placing Media at a High Level at the Onset of Culture is Beneficial

When using flasks and bags to produce cells, periodic media replenishment is needed. However, since media replacement is usually made on the basis of convenience and not exactly at the point when solutes have been depleted to specific level, often population expansion of the cells is slowed (e.g. solutes such as glucose have dropped below needed levels). When fresh media is added, it takes time for the population expansion to reach it optimal rate.

By increasing media height at the onset of culture relative to flasks and bags, G-Rex is designed to minimize or even eliminate the need to perform media exchange, thereby minimizing or even eliminating the number of times cell population expansion slows throughout culture.

The graphs below show an observation about growth curves in G-Rex. GRex100M can facilitate an undiminished rate of culture expansion.

As expected, the media exchange process of GRex100, although far less frequent than flasks and bags, does alter the rate of culture expansion (red and blue). It makes sense given very few (if any) people actually exchange media based on depletion of nutrients when using static culture devices. However, the population expansion can expand at a uniform rate when media is at a 10 cm height (green) at the onset of culture. When media is at 11 cm height (purple) you also get a little more time to harvest before viability drops off. Thus the G-Rex100M is designed to integrate media height at up to 11 cm should these attributes be needed.

In summary, the time needed to expand a population of cells to any given quantity is reduced by G-Rex. When selecting the particular G-Rex device, one should recognize that G-Rex100M has an advantage over G-Rex100 since it allows media to reside at great height at the onset of culture. Thus, the G-Rex prices are adjusted accordingly to allow you to choose whatever level of efficiency you are comfortable with.

