

# Speed adjustment in ClinoReactor Protocol

Correct RPM (Rotations per minute) adjustment of the ClinoReactor® throughout the experiment is crucial for the development and reproducibility of the spheroids or organoids cultivated in ClinoStar®. If you use single cell suspension and depend on self-assemble or use few cells for seeding in the microwell plate, the cell conglomerates are not visible before they reach a size of approximately 500 cells pr. conglomerate. This protocol can be used as a preliminary introduction to RPM adjustment with ClinoStar® but should be followed by practical experience and possible training from CelVivo or a licenced professional.

## Reagents and Materials

- ClinoStar®
- ClinoReactor® with cell conglomerates

## Additional information

The general cultivation procedure and aggregation methods are described in **001\_Protocol\_Cultivating\_Spheroids\_and\_Organoids**, equilibration of the ClinoReactor® is described in **003\_Protocol\_Preparation\_Of\_ClinoReactor**.

The cell conglomerates are usually visible when they reach 500 cells, depending on the aggregation method it can take between 1-4 days. If they are hard to see, try shining a light at an angle on the ClinoReactor®.

## Protocol

1. Check to see if the cell conglomerates are visible. If they are not visible wait an additional day and check again. Depending on the aggregation method it can take between 1-4 days.
2. Evaluate the spheroid or organoid population in the ClinoReactor®, the RPM should be set to fit the abundant size population.
3. In **Figure 1** it is pictured how the spheroids or organoids are distributed in ClinoReactor® depending on the speed, aggregation method and days of cultivation.
4. Adjust the RPM according to the most abundant size population and wait for the inertia in the fluid to equilibrate.
5. The speed is correctly set when the spheroids or organoids are placed like the “Acceptable” or “optimal” pictograms in **Figure 1**.
6. When the spheroids or organoids have a high doubling time the speed should be monitored and adjusted accordingly, at least daily. Depending on the cell type and doubling time the speed should be monitored but not necessarily adjusted.

Warranty/disclaimer: This equipment is for research use only. Materials produced by the use of this equipment must not be used for diagnosis or treatment in any type or form.

For additional product or technical information visit [www.celvivo.com](http://www.celvivo.com) or consult CelVivo Aps at [info@celvivo.com](mailto:info@celvivo.com) or +45 70 228 228.

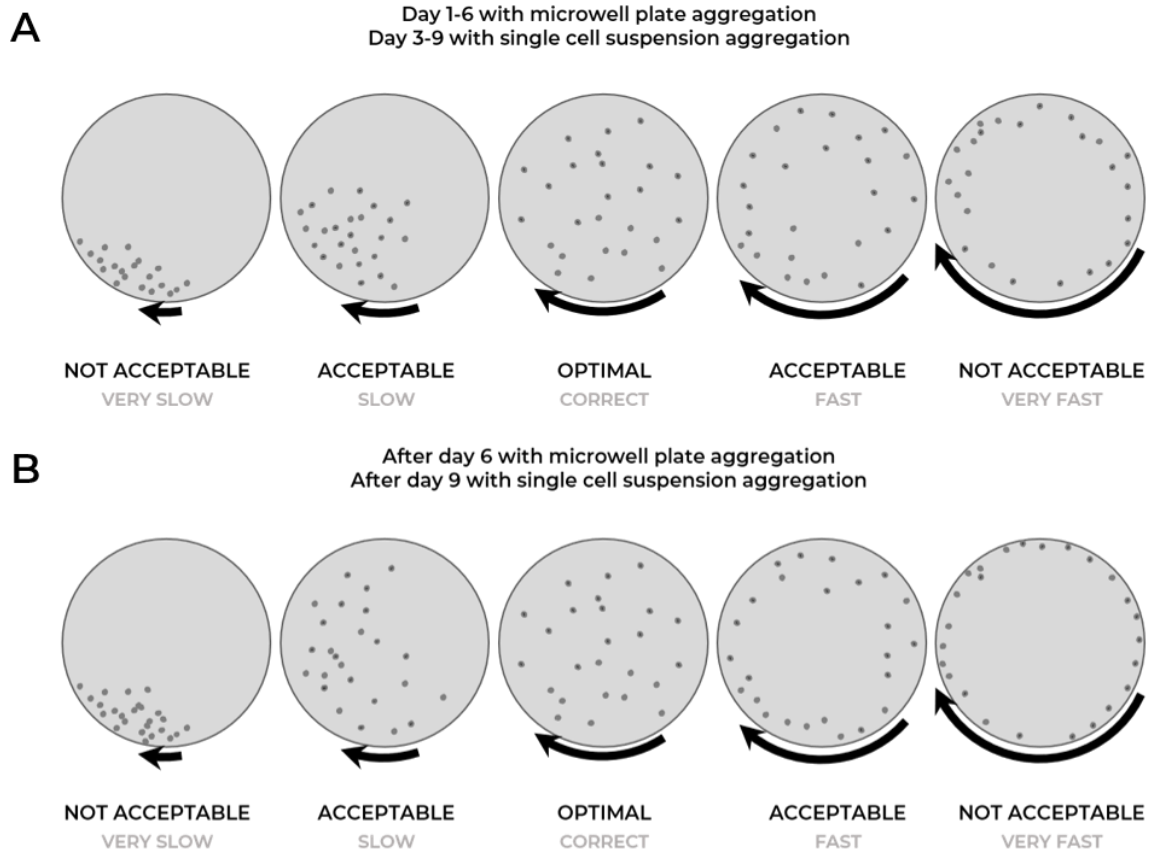


Figure 1: The position of the spheroids or organoids depending on the speed, aggregation method and days of cultivation. A) pictures the first days for cultivation after the initial spheroids or organoids are visible. B) pictures later stage spheroids or organoids.