

Adaptation of cells to serum-free media

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Adapting cells to serum-free media can be performed either directly or gradually in accordance with the following protocols.

The source material should be in the logarithmic growth phase featuring the maximum number of living cells (> 90%). In principle, a successful adaptation also depends on the nature of the cell line used. It is thus highly recommended that the retained cultures are kept in the original medium until the transfer into serum-free medium has been completed successfully.

All serum-free cell culture products and a recommendation some suitable serum-free media for your cells from Biochrom AG can be found on our website:
www.biochrom.de/en/products/serumfreie-zellkultur/

Direct transfer of the cells:

1. Transfer the cells from serum-containing medium into serum-free medium that has been warmed to reach +37 °C. The seeding density should correspond to that in the original culture. Incubate the cells at +37 °C and 5 -10 % CO₂.
2. Passage the cells for a minimum of 4 to 8 passages, while closely monitoring growth and viability.
3. If there is a significant decrease of growth and viability during these passages, the user should switch to the gradual adaptation method.

Gradual adaptation of the cells:

1. Seed the cells with a density twice as high as in the normal inoculum in a 3:1 mixture of serum-containing to serum-free medium.
2. Having reached a density of 10⁶ viable cells/ml, transfer the cells into a 1:1 mixture of serum-containing to serum-free medium.
3. Once the cell density is 1x10⁶ viable cells/ml, transfer the culture into a 1:3 mixture of serum-containing to serum-free medium.
4. Having reached a cell density of 1x10⁶ viable cells/ml, transfer the cells into 100% serum-free medium.

Our Tipp:

➤ Serum-free cell freezing with Biofreeze

Biofreeze is a serum- and DMSO-free freezing medium for the cryopreservation of cell cultures in liquid nitrogen. It is suitable for freezing a wide range of cell lines. Biofreeze has no cytotoxic effect and may be used within the framework of all traditional freezing methods.

➤ **Serum-free transport and cold storage of cells with ChillProtec®**

Adherent cells, cell suspensions or small tissue pieces are able to remain intact after cold storage when kept in the new medium Chillprotec®. The protective medium reduces cell damage caused by cold. Primary human hepatocytes, for example, remained intact at 2-8 °C for several days. We offer two variations of this new medium: ChillProtec® and ChillProtec® plus. ChillProtec® plus contains a macromolecular substance that has an additional protective effect on different cell types. You should therefore definitely test your cells using both versions.

Free samples of the freezing media Biofreeze (F 2270), ChillProtec® (F 2283/5) and ChillProtec® plus (F 2293/5) available at: info@biochrom.de