

## Effect of Amino Acid Culture Mediums on *Botryllus schlosseri*

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### Abstract:

Immortalized cell lines are a group of cells that have been mutated and changed, enabling them to proliferate infinitely. One organism that researchers have been trying to establish an immortalized cell line for is *Botryllus schlosseri*, a marine invertebrate called a colonial tunicate. *B. schlosseri* displays unique traits, one of the most important being its extraordinary regenerative abilities, which make it a desirable organism for studying in different fields of science, such as regeneration biology. The aim of this research was to assess whether amino acid mediums could positively effect the cell growth and proliferation of *B. schlosseri* cells, given its helpfulness in establishing immortalized cell lines in sea sponges, another marine invertebrate. After performing cell counts, we found that amino acid- based mediums, namely Dulbecco's Modified Eagle Medium (DMEM) and Medium-199, do not have a positive impact on the growth and proliferation of *B. schlosseri* cells, as no live cells were observed throughout our experiments. In addition, despite containing various antibiotics, such as streptomycin and penicillin, a large amount of contaminants and debris were observed. Thus, the lack of live cells may have been due to contamination, as it was a massive barrier that may have affect the cell growth and division of *B. schlosseri* cells. To combat this, proper aseptic techniques and/or other methods to reduce or remove such contamination should be taken into consideration in future studies in this area.