Method for cryopreservation of *Paramecium caudatum*

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SUMMARY

Paramecium has a limited life span of several hundred fissions after conjugation. We usually employ a low-temperature culture for long-term preservation of *Paramecium* stocks. However, stocks cannot escape their fate of senescence and clonal cell death. Thus, the establishment of a cryopreservation method for *Paramecium* is one of our earnest dreams. Although many investigators have tried, nobody has yet had success with cryopreservation. We report here a method that has been recently established in our laboratory. During the course of experiments we examined many variables, including cryoprotectants, culture age, composition of the pretreatment solution, freezing temperature, speed of thawing, and conditions for maintenance of cells after thawing. We have found a method that results in an average survival rate of 3.8% after 7 days cryopreservation at –84°C. We hope further improvements will enable us to keep *Paramecium* for much longer periods in near future.