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## STUDY ON CRYOPRESERVATION OF CANINE TRANSMISSIBLE SARCOMA

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The optimum conditions of freezing methods and the most suitable cryoprotectants for cryopreservation of canine transmissible sarcoma(CTS ) were investigated. CTS was maintained in dogs by serial subcutaneous inoculations.

Glycerol, dimethyl sulfoxide (DMSO) and adonitol were used alone or with sucrose as a cryoprotectant.

The results were summarized as follows :

1. The technique performed by mechanical crushing using No. 50 metallic mesh in a porcelain mortar was suitable for obtaining a large number of single tumor cells from CTS in the stationary stage of tumor growth.
2. The viability of the cells after thawing in the case of using the same cryoprotectant showed a higher number of cryopreserved CTS cells by the two-step freezing method than that cryopreserved by the rapid freezing method.
3. The high viability of the cells after thawing of CTS cells cryopreserved by two-step freezing was obtained in the case of using 1.5M DMSO or 0.5M adonitol with 0.5M sucrose as a cryoprotectant.
4. There were no differences in the latent period and the growth of tumor between the both groups of dogs inoculated with cryopreserved and fresh CTS cells.
5. The model number of chromosomes was 58 in fresh CTS cells, which was the same in both groups of CTS cells cryopreserved and developed after inoculation with cryopreserved CTS cells.
6. There was no difference in histological findings of the both CTSs developed after inoculation with cryopreserved and fresh CTS cells.

From the results mentioned above, it was suggested that the property of CTS was not changed by cryopreservation. It was therefore considered that cryopreservation was suitable for the maintenance of CTS.