



## RESEARCH COMMUNICATION

# Cryopreservation of third-stage larvae of *Strongylus vulgaris* (large strongyle of horses)

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### ABSTRACT

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A technique for the cryopreservation of third-stage larvae of *Strongylus vulgaris* is described. Infective larvae of *S. vulgaris* were exsheathed in a 0,16 % sodium hypochlorite solution and then transferred into cryotubes containing 0,09 % saline. The samples were stored in the gas phase of liquid nitrogen.

**Keywords:** Cryopreservation, large strongyle of horses, *Strongylus vulgaris*, third-stage larvae

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There is only one report concerning cryopreservation of equine helminths (Bemrick 1978) in which a mixture of larvae was used without distinguishing between large and small strongylid species and without testing the infectivity of cryopreserved larvae.

The present study was conducted in order to determine the survival rate and infectivity of *Strongylus vulgaris* infective larvae after cryopreservation.

Infective larvae of *S. vulgaris* were exsheathed in 0,16% hypochlorite solution at 37 °C in a water bath. When more than 90% larvae were exsheathed, they were washed twice with tap water.

Subsequently, the larvae were resuspended in 0,09 % saline solution and frozen by submergence in the gas phase of liquid nitrogen.

After 30 d of storage, larvae were thawed at 40 °C and their survival rate was assessed by motility. Judged by this criterion, the survival rate was 52,5 %.

A worm-free 12-month-old filly was infected *per os* with 1 000 motile, cryopreserved third-stage larvae.

A faecal-worm egg count of 400 eggs per g (Gordon & Whitlock 1939) was recorded after a prepatent period of 205 d.

Faecal cultures were prepared according to the method of Whitlock (1956) and the filly was treated with ivermectin (Eqvalan, Logos Agvet) and the experiment was terminated.

Eggs and larvae were identified by the use of the keys described by Thienpont, Rochette & Vamparijs (1979) and Soulsby (1965).

This study has demonstrated that third-stage larvae of *S. vulgaris* can be cryopreserved and that they retain their infectivity after thawing.

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