Abstract

The efficacy of Triladyl®, a commercial cryomedium for bull semen, in the cryopreservation of both human and animal infective trypanosomes as compared to EDTA Saline Glucose (ESG) 10% glycerol was evaluated in the current study. Cryopreserved Trypanosoma brucei rhodesiense, T. evansi, T. b. brucei and T. congolense were first propagated in irradiated mice. At the peak of parasitemia, parasites were harvested by cardiac puncture and 106,105,104103,102 and 10 dilutions made using whole blood bled from clean mice. These dilutions were divided into two equal portions of 0.5 ml each and cryopreserved in both ESG 10% glycerol and neat Triladly®. The procedure was also repeated with T. congolense and T. vivax species of trypanosomes directly isolated from naturally infected cattle. After 1 month of cryopreservation, 0.4 ml each portion of this dilution was injected intraperitonially into irradiated Swiss white mice. Results on pre-patent period (ppp) and progression of parasitemia showed no difference in the recovery of samples cryopreserved using the 2 media. However, mice injected with T. b. brucei cryopreserved in the 2 media showed highly significantly ($p < 0.01$ by t-test) lower ppp when compared to the other species of trypanosomes which had no significant difference. However, the ppp in mice injected with trypanosomes cryopreserved in ESG 10% glycerol was significantly lower ($p < 0.05$ by t-test) when compared to those cryopreserved in Triladyl®. The interaction between media and species was highly significant indicating therefore that the difference in cryopreservation between the two media varies from one species of trypanosome to the other. The interaction between dose and species was also highly significant ($p < 0.01$ by t-test) implying therefore that the effect of the inoculum dose varied from one species to the other leading to the conclusion therefore that although Triladyl® appears as good a cryopreservative medium as ESG 10% glycerol, the choice will be determined by the species of trypanosome.