

**Research No.(V):**

***Toxoplasma gondii*: Prolonged in-vitro maintenance of virulent tachyzoites in fluid media at low temperatures**

Mohamed M. El-Bahy<sup>a</sup>, Marwa M. Khalifa<sup>a</sup>, Eman M.H. Méabed<sup>b</sup>

<sup>a</sup> Department of Parasitology, Faculty of Veterinary Medicine, Cairo University, El-Giza, Egypt

<sup>b</sup> Department of Parasitology, Faculty of Medicine, Fayoum University, Egypt

**Alexandria Journal of Medicine Decamber (2018), 54 (4):511-515.**

<https://doi.org/10.1016/j.ajme.2018.10.006>.

*Background:* Prolonged maintenance of infective *Toxoplasma gondii* tachyzoites (*T.g.T.*) is an important subject for research purposes. This study aimed to evaluate four fluid media for prolonged in vitro maintenance of *T.g.T.*

*Methods:* The four fluid media Phosphate buffered saline (PBS) pH 7.2 and *Roswell Park Memorial Institute (RPMI-1640)* with or without 3% fetal bovine serum (FBS) were evaluated for maintenance of virulent *T.g.T.* The four media were tested after incubation at three different temperature degrees in the darkness.

*Results:* Prolonged maintenance period for infective *T.g.T.* was recorded especially in the absence of FBS supplement. RPMI without FBS was able to maintain infective *T.g.T.* for 16 days post incubation (dpi) at refrigerator temperature. This period decreased to 10 dpi and 6 dpi after incubation in the same media at 18–22 °C and 37 °C, respectively. Cultivation of *T.g.T.* in RPMI supplemented with 3% FBS and in PBS proved to maintain infective *T.g.T.* for 14 dpi at refrigerator temperature, and for 9 and 5 dpi when the two media were incubated at 18–22°C and 37 °C, respectively. Shorter periods for keeping the *T.g.T.* infectivity were recorded using PBS supplemented with 3% FBS under all tested temperature conditions.

*Conclusion:* This method allows economic long-lasting maintenance of tachyzoites for 16th dpi in RBMI that can be reactivated by reinoculation in mice.