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Evaluation of Anti-Leishmanial activity of *Photorhabdus* and *Xenorhabdus* cell-free bacterial supernatants

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According to the World Health Organisation, Leishmaniasis is 9th on the list of most infectious diseases. 350 million people are at risk and 2 million new cases are reported every year. Leishmaniasis is a group of infection caused by *Leishmania spp*. that is transmitted by vector *Phlebotomus spp*. In the treatment, usually drugs contain pentavalent antimone complex as an active substance. However, their effectiveness is varied, resistance occurs in time and toxic effects can be seen. There is a great number of studies to discover novel and effective compounds from different organisms. As a result of these studies, identified bioactive novel therapeutics provide oppurtunities to improve new medicines against parasites. In this study, the effects of cell-free supernatants of bacteria in the genus *Photorhabdus* and *Xenorhabdus* which are mutualistically associated with obligate insect-pathogenic nematodes were investigated against promastigotes of Leishmania tropica. With this objective, the anti-protozoan effects of 23 different bacterial supernatants were evaluated using Microplate dilution method. The cell-free bacterial supernatants were added to culture medium resulting in concentrations of 10%, 5%, 2.5% and 1.25%. Fifteen of the tested supernatants showed efficacy at varied levels. *Xenorhabdus innexi, X. budapestensis, X. miraniensis, X. stockiae*, and *X. cabanillasii* exhibited lethal effect between 89-100% at all concentrations while the rest had dose dependent lethal effect between 10-90%. In line with the results obtained, further studies will be conducted in order to analyze the anti-Leishmanial compounds present in the supernatants. Results will promise new active substances need in the development of new drugs.

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Biography

Hatice Ertabaklar has completed her specialist training at the Ege University School of Medicine, Department of Parasitology. She has been worked 15 years at the Adnan Menderes University School of Medicine, Department of Parasitology in Turkey. She has published more than 35 papers in reputed journals and has been serving as an editorial board member of repute.

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