

## **Biodistribution of Praziquantel (PZQ) Nanoemulsion (NE) in Healthy Wistar Rats: Evaluation of Biological Behavior.**

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Schistosomiasis is a parasitic disease that affects 200 million people worldwide. The conventional treatment consists of praziquantel (PZQ) administration, but the conventional dosage, which is only available in large tablets, is not suitable for children and elderly. In this article a new PZQ liquid formulation, a nanoemulsion (NE), was developed by ultrasound processing and evaluated in terms of droplets mean size, polydispersity index (PI) and morphology, by atomic force microscopy (AFM). A biodistribution study using Technetium-99m (Tc99m) was performed with the NE and a PZQ suspension developed only for comparison purposes. DLS results showed low PI (0.15), monomodal distribution profile and mean droplets size around 30 nm which is in accordance with the microscopy results. The biodistribution study demonstrated higher uptake of PZQ-NE in intestine when compared to the free drug (suspension). In conclusion, PZQ-NE is a new promising oral delivery system to be used against schistosomiasis due its high uptake in the intestines where the parasite could be allocated.