

Characterization of physicochemical markers for homeopathic medicines and biological supernatant samples

Sandra Augusta Gordinho Pinto, Ana Carla Aparicio, Jefferson Souza, Ivana B Suffredini, Steven J Cartwright, Leoni Villano Bonamin*.

Universidade Paulista - UNIP, São Paulo, Brazil. Presenter: sandraagp@hotmail.com *supervisor: leonibonamin@gmail.com

Introduction: Solvatochromic dyes are probes to detect variations on the dipole moment of solvents after the insertion of homeopathic potencies. Recent studies have shown they can be useful tools in laboratory and field studies to detect the activity of homeopathic remedies. **Objective:** Determine whether solvatochromic dyes can be a diagnostic tool for cells infected by different agents and/or markers to identify the activity of homeopathic medicines. **Methods:** *Ethilicum* 1cH, *Silicea terra* 6, 30, 200cH; *Zincum metallicum* 6, 30, 200cH and *Phosphorus* 6, 30 and 200cH were analyzed by pouring the samples (in a 1:60 rate) into a series of seven dyes (rhodamine, ET 33, ET 30, coumarin 7, NN DMIA, Nile red, methylene violet) diluted in absolute ethanol using pre-established working concentrations. Oscillations of dye absorbance were observed at visible light spectrophotometry according to the remedy and potency. Water and succussed water were used as controls. In a second moment, the absorbance profile of the remedies will be compared with those of biological samples (supernatants) and checked with the biological effect previously obtained from each treatment. Supernatants of RAW 264.7 macrophages stimulated by Calmette-Guérin bacilli (BCG) or infected with *Encephalitozoon cuniculi* will be analyzed. **Results:** Preliminary results have shown that *Silicea terra* 6cH, *Phosphorus* 30 and 200cH and *Zincum metallicum* 6, 30 and 200cH reduced the absorbance of methylene violet ($p=0.01$). Repetitions and analysis of supernatants are expected to be performed in the next steps of the study. **Future perspectives:** Establish a pattern of reactivity of the studied medicines with different dyes and the putative relation with the corresponding supernatants, as an attempt to obtain a “physicochemical signature” for each kind of infection and/or treatment.

Key words: Homeopathy, spectrophotometry, solvatochromic dyes.