

## Assessment of Tartrazine Toxicity on Tetrahymena Pyriformis by Means of DNA Image Analysis

M. Stefanidou<sup>1</sup>, A. Chatziioannou<sup>1</sup>, A. Livaditou<sup>2</sup>, A. Relaki<sup>2</sup>, G. Alevizopoulos<sup>1</sup> and A. Koutselinis<sup>1</sup>

1. Department of Forensic Medicine and Toxicology, Medical School, University of Athens, 75 M. Asias str., Greece

2. 251 Hellenic Air Force and V.A. Hospital, Athens, Greece

The use of food additives is widely spread in the modern food industry and the consequence is their presence in significant quantities in the consumers' daily diet.

The food additives are responsible for various toxic reactions in humans. The most common food additives are the conservatives, the antioxidants, the colorants, the emulsifiers, the sweeteners, the acidifiers etc.

In the present paper the toxicity of the synthetic colorant tartrazine on the protozoon Tetrahymena

pyriformis was studied. Tartrazine was administered to the Tetrahymena cultures and then the DNA content of the protozoan nuclei was measured by means of Image Analysis System.

The results of this study showed that tartrazine caused an increase in the DNA content of the nuclei and this finding is indicative of the stimulation of the mitotic process of the protozoon.

The results of this study may contribute to the investigation of the toxic action of azodyes on cellular level.