

# Journal of Biological Research

Bollettino della Società Italiana di Biologia Sperimentale



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ABSTRACT BOOK

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H<sub>2</sub>DCFDA, HE, CBA, etc, are already available to detect ROS in eukaryotic cells. However, few fluorescence probes can be used in the erythrocyte system as a result of the complexity of RBCs. Consequently, we explored to establish a new method to measure ROS by Liquid Chromatography coupled to Mass spectroscopy (LC-MS). The LC-MS approach filters the target probe-radical adduct through a selective column, thus avoiding overestimation of ROS concentration and allowing specific radical determination. LC-MS method was successfully applied to erythrocytes for quantifying superoxide radicals and its reduced form hydrogen peroxide in the erythrocyte system under diverse conditions.

### DETECTION OF THE DIFFUSION AND KNOWLEDGE OF ENERGY DRINKS, CONDUCTED THROUGH A STATISTICAL SURVEY ON PALERMO AREA

Fabio Venturella<sup>1</sup>, Chiara Schimmenti<sup>2</sup>, Giulia Cancellieri<sup>2\*</sup>, Anastasia Valentina Liga<sup>2\*</sup>, Marina Teresi<sup>2</sup>

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In recent years energy drinks consumption has increased, due to their ability to improve physical and cognitive performance. Unfortunately, because of poor or incorrect information, people are not always aware of the harmful consequences of these drinks such as obesity, diabetes, hypertension, tachycardia until death. Therefore, we conducted a statistical survey in Palermo area, submitting a paper questionnaire to 1003 people. Data analysis shows that: only 29% of the audience never consumed energy drinks, while 71% tried them at least once in their life, especially in adolescence; 81% never or rarely drink them, 14% drink them a few times a month, while 5% drink them several times a week; energy drinks are mostly consumed in disco, sport and study contexts; 93% of respondents are aware of the risks caused by the excessive consumption of them; 91% know that it is not appropriate to associate them with alcohol, but 9% think it is better to mix them; 72% of interviewees know that people should never drink energy drink with alcohol, 13% do it only in the weekend, while 15% think it is appropriate to do whenever they want. In fact, 14% do not believe it is risky to take energy drinks

together with alcohol; and 40% do not know whether it is risky or not, while 46% know it can be risky; 45% associate the idea of cigarettes with alcohol and energy drinks. In conclusion, it is appropriate to highlight their risks to prevent some fatal consequences.

### STATISTICS OF DATA RELATED TO AMAZING SUBSTANCES ANALYZED AT THE "LABORATORY OF CHEMICAL INVESTIGATIONS" OF THE PALERMO SCIENTIFIC POLICE

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The substances analyzed mainly at the "Chemical Investigation Laboratory" of the Regional Cabinet of Palermo, in the period from 2013 to 2018, are heroin and cocaine. For analytical techniques, mass spectrometry techniques associated with gas chromatography were used. Statistical analysis revealed a general increase in both the distribution and the average percentage of active ingredient in heroin, a substance currently available on the illicit market at a lower price than in the past, often cut with substances of synthetic derivation. Comparison of heroin seizure data in western Sicily and throughout the national territory shows a growth trend; in particular, in 2017 there is an average percentage of active ingredient of 17.0% in the national territory and 25.7% in western Sicily. About the spread of cocaine, an increase in the average percentage of active principle (in 2017, 68.0% in the national territory and 75.6% in western Sicily) is observed in the data relating to the analyzes performed and in the use of cutting substances, with a maximum increase between 2017 and 2018, especially due to the presence of adulterants used in order to enhance the desired effect. The current panorama leads to the conclusion that "prevention", implemented through a suitable information campaign, is the instrument of choice for containing and controlling the spread of these substances with an amazing action, especially among adolescents. In this context, professional figures such as those of the pharmacist can play a fundamental role.