HOSTING GROUPS FOR INTERNATIONAL MOBILITY

Nome gruppo **NUTRITION PHYSIOLOGY**

Our research aims to investigate the effects of functional foods or phytocompounds in maintaining metabolic homeostasis and to characterize the mechanisms responsible for the observed effects. The experimental activity is conducted in the animal model (mainly High Fat Fed mice), that is fed with the food to be studied. We focus mainly on metabolic syndrome, obesity, dyslipidemia, alteration of glucose metabolism, insulin resistance, oxidative stress, neuroinflammation and neurodegeneration in the central nervous system by using different methodologies (RT-PCR, micro-array analysis, western blotting, ELISA; histological, immunohistochemical, and immunofluorescent techniques). In addition, we also investigate the eventual involvement of the gut microbiota in the beneficial effects induced by the functional food through correlation statistical analyses. We have already demonstrated the effects of the ingestion of pistachios of Valle del Belice, honey, yellow fruit of *Opuntia ficus-indica,* Kumquat.

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Selected publications: (con DOI, Max 5)

- *Titolo,* ***Rivista abbreviate,*** *Volume, Pagine (Anno) (http://doi.org/**…**)*

1. Kumquat Fruit Administration Counteracts Dysmetabolism-Related Neurodegeneration and the Associated Brain Insulin Resistance in the High-Fat Diet-Fed Mice. Int J Mol Sci. 2025, 26:3077. doi: 10.3390/ijms26073077.

2. Positive Impacts of Aphanizomenon Flos Aquae Extract on Obesity-Related Dysmetabolism in Mice with Diet-Induced Obesity. Cells. 2023, doi: 10.3390/cells12232706.

3. Preventive Impact of Long-Term Ingestion of Chestnut Honey on Glucose Disorders and Neurodegeneration in Obese Mice. Nutrients. 2022,

4. Indicaxanthin from Opuntia ficus-indica Fruit Ameliorates Glucose Dysmetabolism and Counteracts Insulin Resistance in High-Fat-Diet-Fed Mice. Antioxidants (Basel). doi: 10.3390/antiox11010080.

5. Pistachio consumption alleviates inflammation and improves gut microbiota composition in High Fat Diet fed mice. Int. J. Mol. Sci. 2020, doi: 10.3390/ijms21010365.