



MAGISNAT's Presentation Event

13th and 14th December 2023

"Elevating Well-being: MAGISNAT's Presentation at Georgia State Capitol and Atlanta Tech Park"

Locations:

Georgia State Capitol - 13th December

3:00 - 4:00 PM

206 Washington St SW, Atlanta, GA

Atlanta Tech Park - 14th December

3:00 - 6:00 PM

107 Technology Pkwy., Peachtree Corners, GA



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Elevating Well-being: MAGISNAT's Presentation

**Press Conference
Georgia State Capitol
December 13th
3:00 - 4:00 PM**

"MAGISNAT's Spin-Off Presentation at Georgia State Capitol, Atlanta"

MAGISNAT, an innovative spin-off, has settled at Atlanta Tech Park in Peachtree Corners, focusing on developing its patents and philosophy based on omics science. Specializing in the study of physiological regulatory processes to improve well-being, it is one of the first companies in the world to use omics methodologies to study the natural processes that maintain the homeostatic health of our bodies, **embodying a futuristic vision of well-being.**

Moderator: Ludovico Seppilli

- **Representative from Governor's Office**
- **Matteo Bertelli**, MAGISNAT
- **MAGISNAT Presentation Video**
- **Kevin Donato**, MAGISNAT
- **Eva Alvino**, Italian Vice Consul General in Miami
- **Nick Masino**, Gwinnett Chamber of Commerce
- **Deven Cason**, Partnership Gwinnett
- **E. Jane Caraway**, Business Development Department - State of Georgia
- **Pietro Chiurazzi**, MAGISNAT and Catholic University, Rome



Elevating Well-being: MAGISNAT's Presentation

**Scientific Meeting
Atlanta Tech Park
December 14th
3:00 - 6:00 PM**

"MAGISNAT Scientific Research Presentation at Atlanta Tech Park"

MAGISNAT shows **six patents focused on the use of omics testing for personalized dietary supplementation** already available in the market. Its "**OMICS Machine**" models **human molecular pathways**, enhancing customized lifestyles and supplements. **Current research focuses on reducing harmful cigarette compounds, on investigating genes associated with lipedema, and on critical aspects like chemosensitivity in appetite.** Additionally, one patent focuses on using **Lactobacillus Reuteri to treat oral mucositis, restoring the microbiome balance.** These patents reflect MAGISNAT's vision of examining intricate molecular mechanisms to maintain health through homeostatic processes, **utilizing omics sciences to enhance the body's natural processes.**

Moderators: **Matteo Bertelli** and **Ludovico Seppilli**

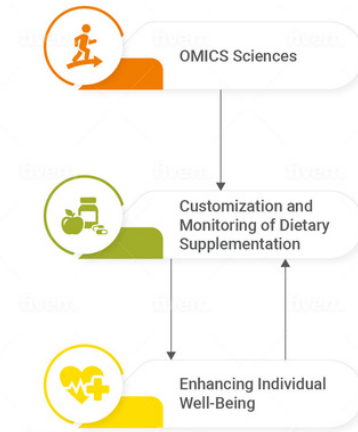
- **Nashlee Young and Robin Bienfait**, Atlanta Tech Park
- **Bertrand Lapoire**, City of Peachtree Corners
- **Andrew Hickey**, Partnership Gwinnett
- **Matteo Bertelli**, MAGISNAT - MAGISNAT Spin-Off Presentation
- **Kevin Donato**, MAGISNAT - "*MAGISNAT Personalized Approach*"
- **Gabriele Bonetti**, MAGISNAT - "*Innovative Approaches: Treating Lipedema*"
- **Coffee Break**
- **Maria Chiara Medori**, MAGISNAT - "*Branched-Chain Amino Acids for Anorexia and Cachexia*"
- **Kristjana Dhuli**, MAGISNAT - "*Targeting Oral Mucositis: A Comprehensive Approach*"
- **Pietro Chiurazzi**, MAGISNAT - "*Exploring the Future: Patents and Spin-Offs in Well-being*"



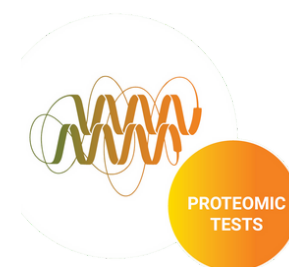
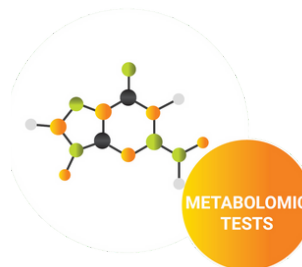
OUR INTEGRATED APPROACH

MAGISNAT has set its initial focus on tailoring dietary supplementation through omics tests. This marks the first objective in their approach to wellness research.

The mission is to utilize OMICS approaches to study the major molecular pathways of the human body and develop targeted innovative solutions aimed at improving the overall well-being of individuals.



With the aim of promoting individual well-being, **genomics, metabolomics, and proteomics** are used to **personalize lifestyles, diets, and dietary supplementation**, and science-based dietary supplements are developed based on natural molecules derived from the Mediterranean diet at **physiologically active concentrations**.



OUR FOCUS ON SCIENTIFIC RESEARCH

MAGISNAT also focuses on targeted scientific research for patent development

- Studying **small molecules and their properties** in the in-vitro and in-vivo modulation of altered molecular pathway.
- **In-depth research into the applications of omics sciences and the integration of multiomic data** applied to study individual characteristics, with the goal of proposing **innovative applications**.



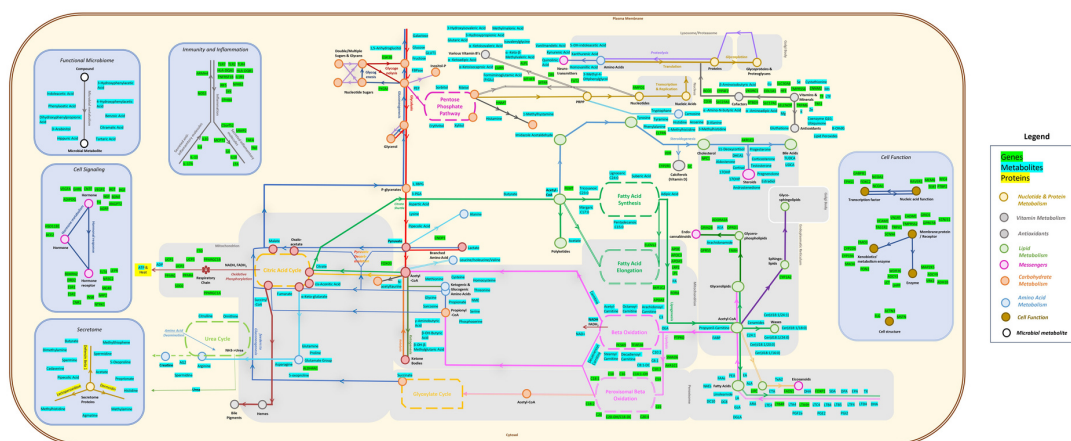
OUR PATENTS

PATENT 1

By applying different omics approaches, a model was created to integrate multi-omics data to build a map describing the major molecular pathways in the human body.

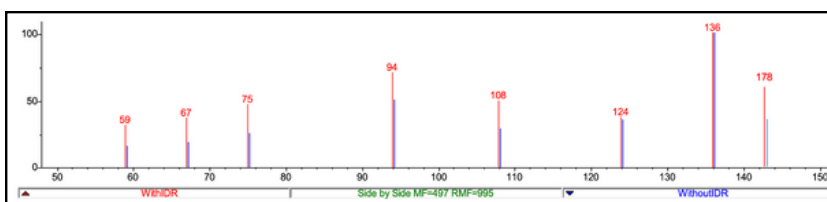
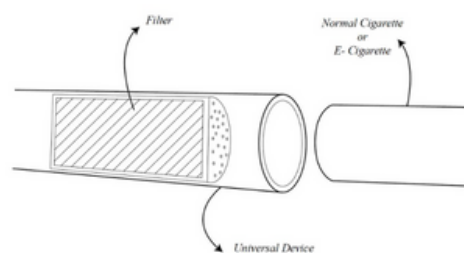
The model called "OMICS Machine" can optimize and personalize lifestyle, dietary supplementation and physical activity. It is then possible to supplement one's diet with dietary supplements that have been developed to act on specific pathways identified through the OMICS Machine, with which improvements can also be monitored.

OMICS MACHINE



PATENT 2

In personalized prevention, small molecules can diminish toxic compounds in cigarette smoke by functionalizing the filter. Our study demonstrated a notable decrease in cigarette smoke toxins due to molecular interactions within the functionalized filter and smoke compounds. This can potentially mitigate cigarette smoke's harm and toxicity.

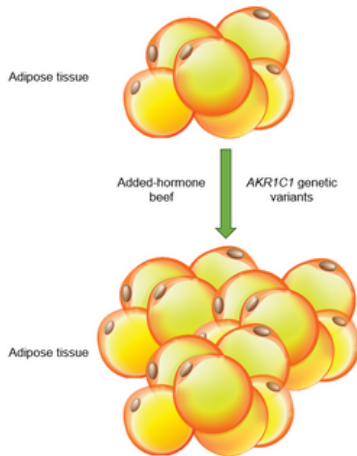


MOLECULES	m/z	PERCENTAGE REDUCTION
FORMALDEHYDE	67	71%
ACETONE	59	74%
ACROLEIN	75	72%
ANILINE	94	74%
O-TOLUIDINE	108	72%
2,4,6-TRIMETHYLANILINE	136	68%
ANISIDINE	124	75%
N-NITROSOPORNICOTINE	178	45%



OUR PATENTS

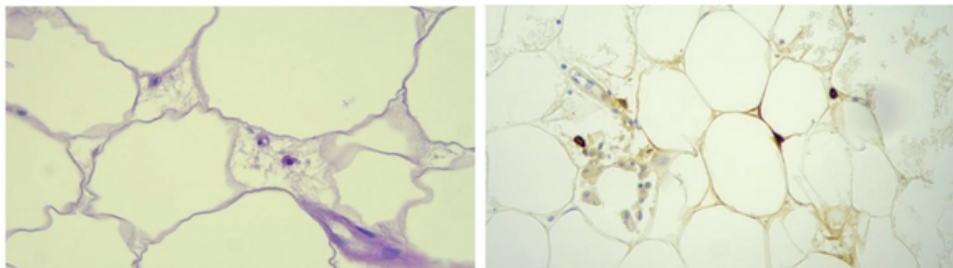
PATENT 3



In search of a molecular mechanism of vulnerability to lipedema, a specific form of obesity, **the first related gene has been discovered by our group in collaboration with the University of Arizona. AKR1C1**, a steroid metabolizing enzyme, when disrupted by a genetic variant can predispose to lipedema, especially when an individual is exposed to hormone added beef in the diet. Using bioinformatics approaches, **we have identified small molecules that compete with hormones introduced in the diet, and can prevent the onset of lipedema.**

PATENT 4

After evaluating the role of mast cells in adipose tissue growth and inflammation, **in vitro and metabolomics studies were performed to find a molecule capable of modulating these pathway. Sodium cromoglycate**, proposed for the treatment of lipedema, can reduce histamine and macrophage activation in patients, and could reduce symptoms such as pain and fat deposition.



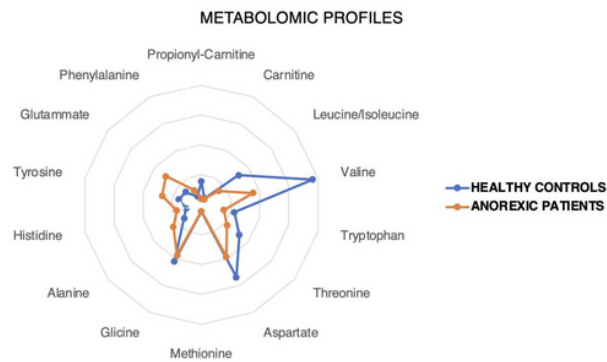
Microscopic images of adipose tissue and mast cells infiltration



OUR PATENTS

PATENT 5

Delving into **the research on chemosensitivity and its crucial role in appetite regulation**, specific amino acid ratios that play a key role in the delicate control process have been identified. Metabolomic studies have outlined the **metabolic profiles of individuals with eating disorders, revealing significant differences compared to healthy controls**. The patent focuses on the **targeted use of these amino acids in a precise ratio to influence appetite regulation, acting directly on this physiological pathway**. This study focuses on a completely natural approach to regulate a crucial aspect, such as appetite.



PATENT 6

With the **aim of finding a natural approach to modulate the physiological defenses of the oral cavity**, a patented gel composition that includes **Lactobacillus Reuteri** can be used to **prevent or treat oral mucositis**. *L. reuteri* is a beneficial and naturally present bacterium in the oral cavity. **It is capable of reducing inflammation and competing with pathogenic microorganisms**.

