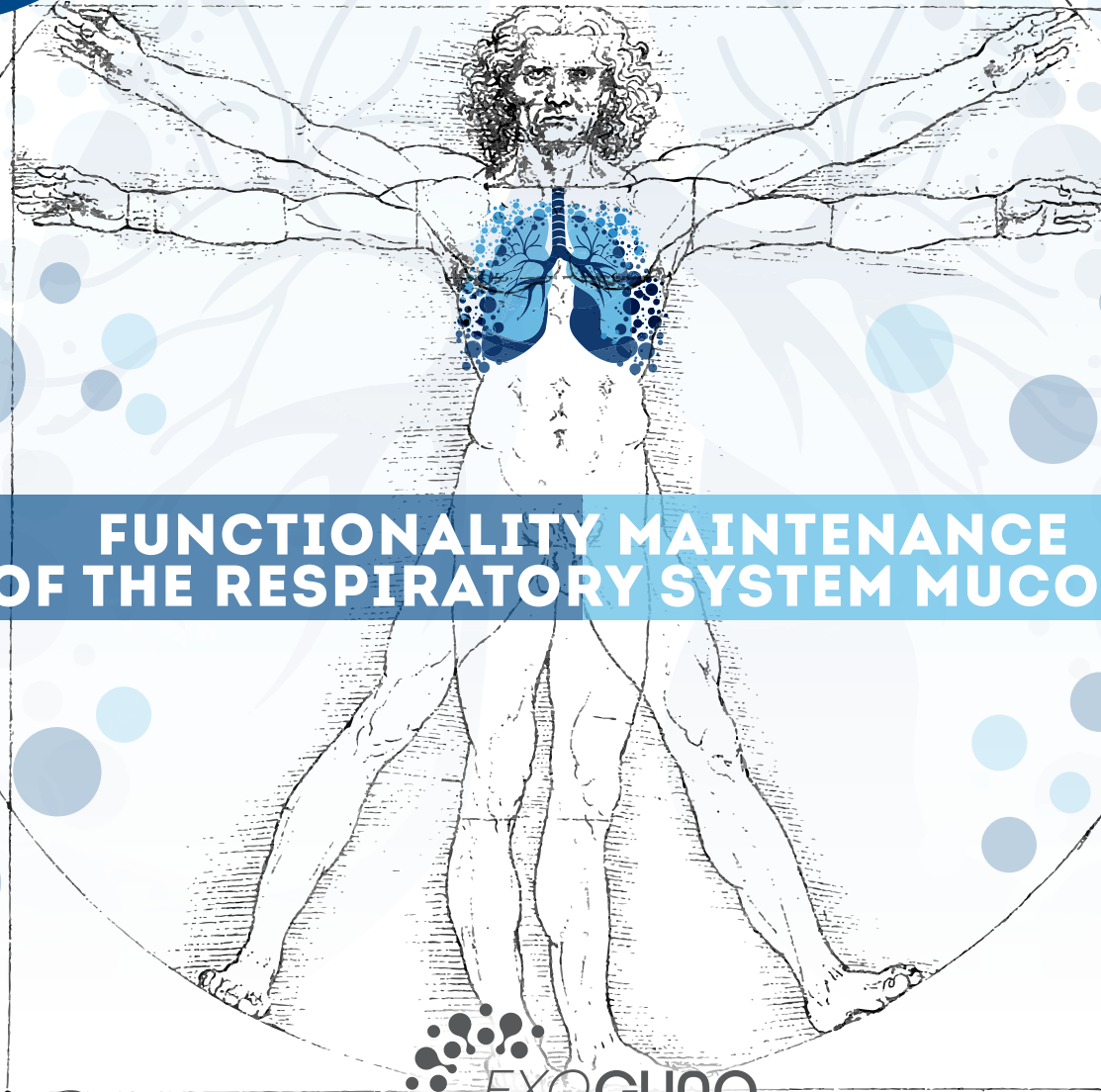


Pulmoguna

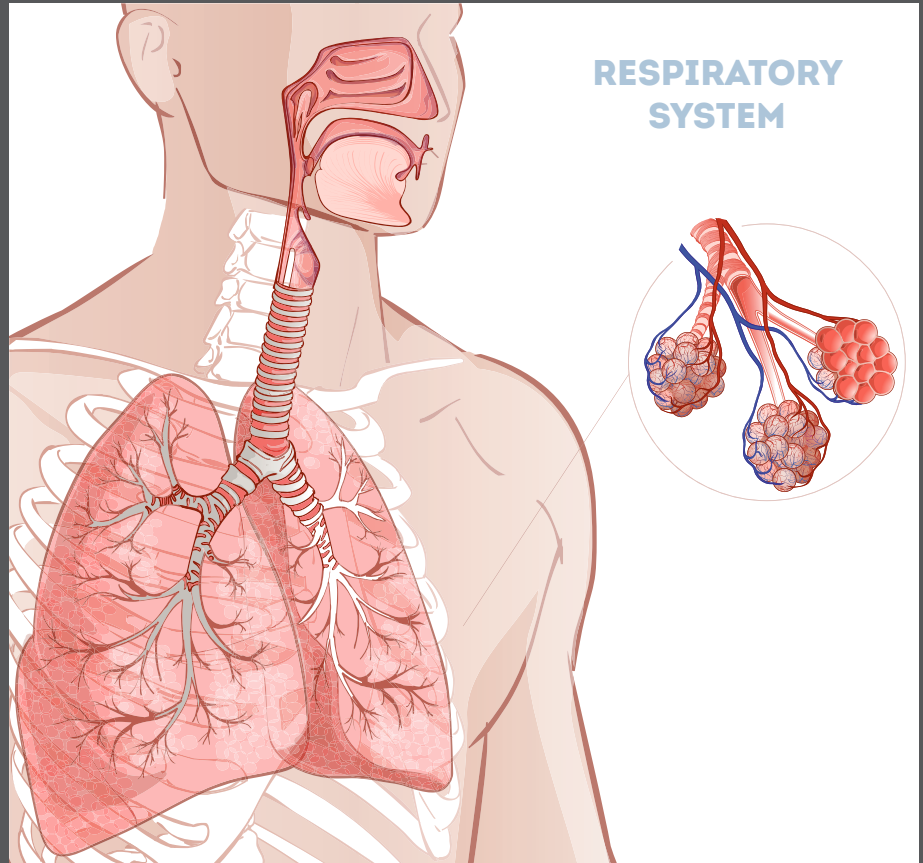
Food supplement



FUNCTIONALITY MAINTENANCE OF THE RESPIRATORY SYSTEM MUCOSA

EXOGUNA
the science of **exosomes**

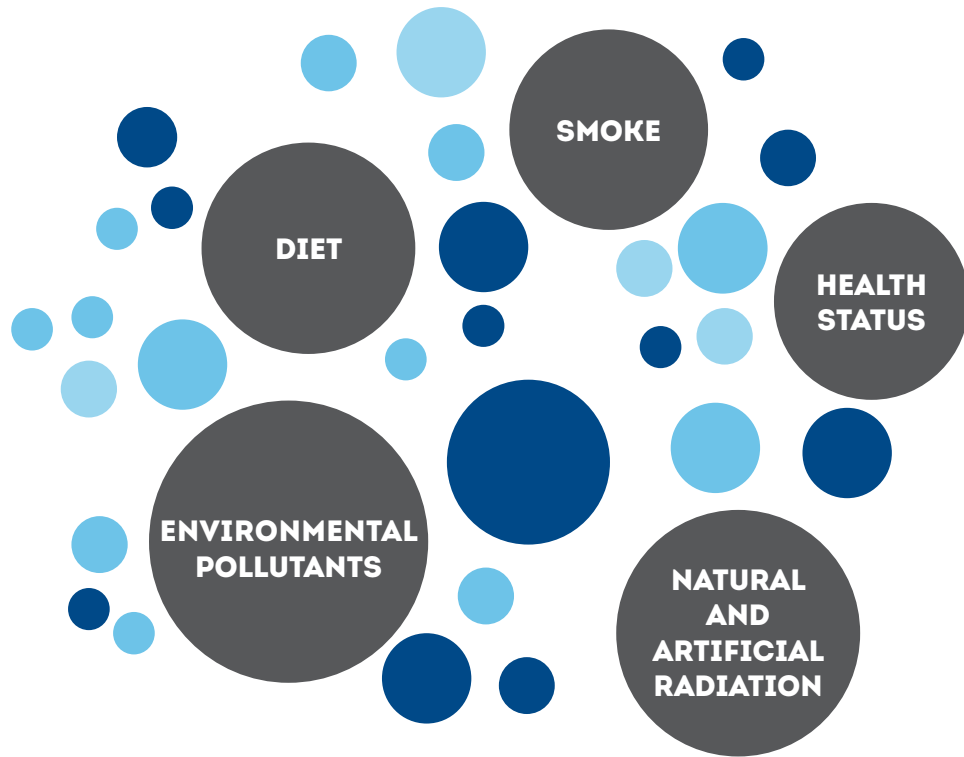
Among the factors that cause reduced functionality or tissue ageing, a crucial role is played by certain elements of the exposome which have a major epigenetic role in influencing the body's health status¹.



Epigenetic mechanisms represent the regulating interface between the environment and the genome.

In genome-wide association studies, the impact of genetic factors on health status has been estimated lower than that of epigenetic factors referable to the exposome².

Critical factors
**EXPOSOME AND
RESPIRATORY SYSTEM**



With a surface area of between 70 and 120 square metres, the respiratory system, along with the intestine, constitutes one of the largest body areas exposed to the external environment and is therefore easily influenced by it.

Lungs are intrinsically reparative in nature. However, unbalanced environmental conditions and certain habits can affect lung's optimal function, such as in the case of high environmental pollution or cigarette smoking.

THE CHARACTERISTICS

of the exosome technology



Exosomes are extracellular vesicles crucial in **intercellular communication**.

The 'Human System' can be described, in a simplified way, as a compound driven by the interactions between the 40,000 billion cells that constitute it and the trillions of bacteria that are its symbionts. A crucial factor in the functioning of this microcosm is played by signaling molecules that manage multi-level crosstalk (cell-cell, organ to organ, system or apparatus to other systems or apparatuses, but also human organism and microbiota). The dynamics of **intercellular signalling** systems via exosomes can be identified even at the animal and plant level.

By moving in the space delimited by the concept of the **interactome**, **exosomes** (food's natural components normally taken in through diet or food supplementation) are **shuttles of biochemical signals**.

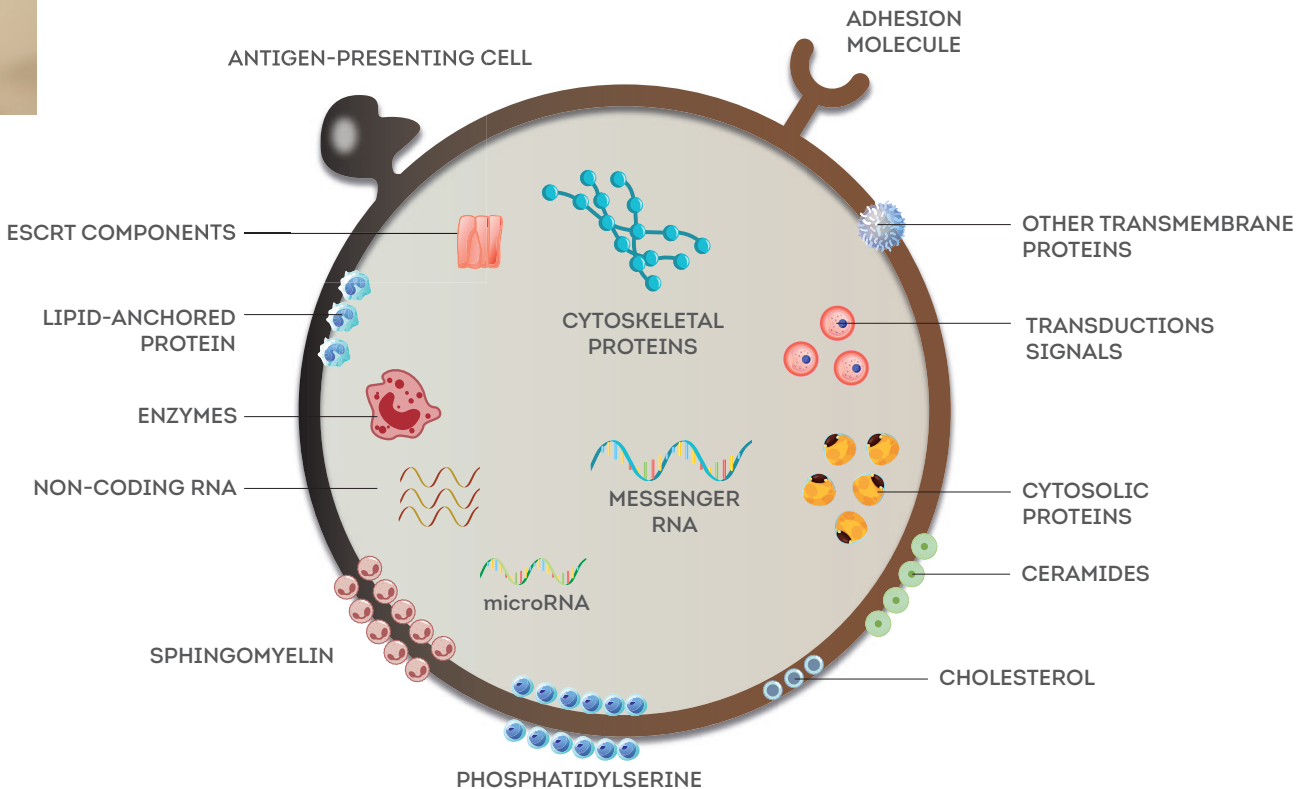
Exosomes are typically round microvesicles with a diameter of 50-100 nm. They are true vectors that carry within them a cargo of proteins³, lipids⁴ and nucleic acids⁵ capable of 'delivering' their contents to recipient cells.

Among the different components carried by exosomes figure micro-RNAs (miRNAs).

miRNAs are able to epigenetically modulate important post-transcriptional processes, controlling repair and maintenance mechanisms of cell and tissue identity. In fact, miRNAs incorporated into exosomes can modify the proteomic expression of target cells⁶⁻⁹.

On their surface, exosomes expose specific proteins such as the 4-Tetraspanins that participate in the process of exosome endocytosis within the target cells.


In addition, within the exosomes we find:



PULMOGUNA INGREDIENTS


HOW THEY WORK

NEORLAND® FREEZE-DRIED LUNG



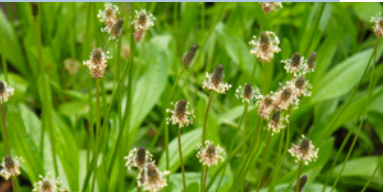
Thanks to its production technology, the Neorland® freeze-dried lung maintains unchanged the nutritional properties of the original foodstuff, swine lung, differing only in the absence of water. It is analysed for the presence of exosomes, nano- and microvesicles carrying miRNA, DNA, RNA and proteins.

NAC



Short for N-Acetyl Cysteine, it is an organic molecule known for its antioxidant properties¹⁰.

NARROW LEAF PLANTAIN (*Plantago lanceolata* L.)



It supports the normal function of the respiratory tract. It has an emollient and soothing effect on the oropharyngeal mucosa and an action on voice tone¹¹.

GRINDELIA (*Grindelia robusta* Nutt.)

Medicinal herb of the sunflower family that produces a resin characteristically aromatic that exudes naturally, forming a thick layer over the flower buds¹².

Grindelia is known to have a balsamic effect and an emollient and soothing action on the oropharyngeal mucosa. It has beneficial properties on the voice tone.

VITAMIN E

Vitamin E protects cells from oxidative stress by reducing reactive nitrogen and oxygen species¹³.



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Ingredients

N-Acetyl Cysteine, Neorland® freeze-dried swine lung, Narrow Leaf Plantain (*Plantago lanceolata* L.) leaves powder, Grindelia (*Grindelia robusta* Nutt.) flowering aerial parts powder, anti-caking agents: magnesium salt of fatty acids, silicon dioxide; acidity regulator: dibasic calcium phosphate, Vitamin E (d-alpha-tocopherol); for the capsule: gelatine from tapioca naturally fermented in pullulan.

Pulmoguna does not contain lactose and is free from gluten and GMOs.

Nutrition facts

	Per daily dose (2 capsules)	%NRV*
N-Acetyl Cysteine	210 mg	
Freeze-dried lung	140 mg	
Narrow Leaf Plantain, powder	133 mg	
Grindelia, powder	133 mg	
Vitamin E	10.5 mg	87.5

*NRV: Nutrient Reference Values

Instructions for use

It is recommended to take 2 capsules of Pulmoguna per day, to be swallowed with a little water.

Packaging

30 swallowable capsules of 450 mg
Total net weight: 13.50 g e

Warnings

Do not exceed the recommended daily dose.

Keep out of reach of children under 3 years of age. Seek medical advice before using the product if pregnant or breast-feeding.

Food supplements should not be used as a substitute for a varied diet and healthy lifestyle.

Store the product in a cool and dry place and protect from light. The expiry date refers to a product correctly stored in its original and undamaged packaging.





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FUNCTIONALITY MAINTENANCE OF THE RESPIRATORY SYSTEM MUCOSA



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Via Palmanova, 71 - 20132 - Milan - Italy

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GUNA S.p.a. is a company with quality management standard system **ISO 9001** certified by Bureau Veritas Italia SpA



Guna S.p.a. has joined
Lifegate's Zero[®] Impact project
To offset its plant's CO₂ emissions
by contributing to the development
of energy efficiency and forest protection initiatives.