Since I was a child, since I had memory, I had a particular interest for science and for chemistry. Fascinated by how water could turn from a transparent liquid into a white solid or how very small "things" could enter into our body inducing cold or fever. So, growing up pushed by curiosity I toke the "road" that makes me who I am today.

After toke my graduation as a chemical expert at the state technical institute "Enrico Mattei" of Urbino I continued my studies taking the degree in Pharmaceutical chemistry and technologies (CTF) at the university of Urbino "Carlo Bo". To expand my knowledge I had my master thesis at the "RWTH" Aachen University in Germany that host the "Experimental Molecular Imaging (ExMI) department. One of the biggest and most famous laboratory for the study and the research of anticancer technologies at European level. I had to choose if leave for Germany for a Doctorate or if stay in Urbino, my home town, for this project. I don't know yet if for a challenge with my-self, for the simple pursuit of happiness or both, but I'm here betting in my Country.



For more than one year I studied for perfecting my idea, the meticulous research for make it not only possible but also real.

Among Urbino's hills, so acclaimed by the writers of the past I founded my business. Far away from any urban

and artificial pollution, in a hidden valley I put the first "brick" of what became my snail farm some months later.

The farm is surrounded by seasonal arowing cultures for constantly supply-



ing food for snails without using chemical stances.



## A greenhouse

allows not only the continuous monitoring of temperature and humidity to which snails are used but also it grants the protection from all the animal species that eat them. Since the beginning the project contemplates to repro-

duce in the smallest details the natural environment where these clams live, reproduce and grow, limiting any trauma coming from the farm its-self. The extraction of the snail secretion is done exclusively through manual process in the complete and total respect of these animals in order to reduce the mortality to



zero. The secretion is filtrated and then micro-filtrated many times in order to remove any impurities.

#### **PROPERTIES OF SNAIL SECRETION FILTRATE**

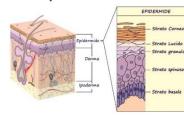
The slime of the snail was the object of many experiments that permitted the detection of seven different natural molecules, which exhaustively explain all the properties attributed to it in centuries of history:

- 1. LECTINS: Those proteic-macromolecules secreted by the albumine gland are powerful antibiotic: their action is very close to the streptomycin's one. Lectins are also known to play an important role in the immune system. Within the innate immune system, lectins help mediate the first-line defense against invading microorganisms.
- 2. ALLANTOIN (C<sub>4</sub>H<sub>6</sub>N<sub>4</sub>O<sub>3</sub>): Acknowledged by the European and British pharmacopoeia as a dermatologically agent is classified by "FDA" as a skin protector. Allantoin enhance the proliferation of fibroblast and the HN consequent synthesis of the extracellular matrix. Also it stimulates tissue regeneration replacing dead cells with
- 3. ELASTIN: It predominantly contain amino-acid as valine, alanine and proline. Elastin is one of the constituent protein of the connective tissue. It is the most elastic protein and allows many different human organic tissue to come back in the original position when stretched or contracted. It's easy to understand how much elastin is important for our skin.
- 4. COLLAGEN: It is the main protein of animal's connective tissue (including human) and the more aboundant (25% of the total protein's mass), it represents more or less 6% of the total bodyweight. The functions of this protein are different according to the different kind of known collagens in literature (28). Some example are: to sustain blood vessels including peripheral capillaries or to reinforce skin.

#### 5. GLYCOLIC ACID ( $C_2H_4O_3$ ):

new cells.

Structurally the smallest αhydroxyacid the glycolic acid has excellent capacity of an penetrating the deepest layer of the skin down to the epidermis basal layer.

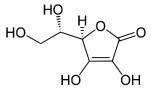


# С HO OH

This skill allows the glycolic acid to undermine the binding properties of lipids that keep close the dead epithelial cells.

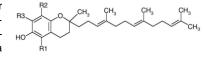
### VITAMIN "C" (L-Ascorbic acid, C<sub>6</sub>H<sub>8</sub>O<sub>6</sub>):

It's important for the correct founding of the immune system and for the endogenous synthesis of collagen. Moreover, it performs an antihistaminic action and takes part in many redox catalyzed reactions.



#### 7. VITAMIN "E" (Tocopherol):

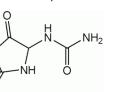
It's a very powerful basic antioxidant for the prevention of oxidation of polysaturated acids. This is a kev event for the pro-

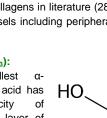


cess of lipidic peroxidation where free radicals start a chain reaction. Vitamin "E" stop this phenomenon. Considering that lipidic peroxidation pattern is a way for deep cellular alteration, we can easily understand why tocopherol is critical for the sustain of cellular structures.

#### **COSMETIC ACTIONS**

- 1. NUTRITIVE AND RELAXING ACTION: Elastin and Collagen together make skin tissue more elastic, tonic and soft. They allow the skin to endure mechanical actions such us stretching and contraction that characterize all the voluntary movements in a better way. Moreover, they counteract the formation of stretch marks and the attenuation for the ones already present, making them less visible.
- 2. **REGENERATING ACTION:** I'Allantoin allows the acceleration of all the physiological process of the epidermis turnover. This enables the tissue reparation erasing all signs like scars, burns and other skin imperfection. Furthermore allantoin slows down the progressive process of cellular aging through reabsorption of skin's spots and wrinkles.
- EXFOLIATING ACTION: Glycolic acid, penetrating deep into the 3. skin's layers, it allows the separation of the dead epithelial cells. This process restores the skin brightness and also reduces the skin's discoloration.
- 4. PURIFYING ACTION: the numerous Peptides with the coadjuvant presence of glycolic acid, perform a film-forming action preventing the accumulation of impurities. Also, it grants the removal of the ones already present resulting helpful to counteract acne and all the irritation that acne causes.
- 5. MOISTURIZING ACTION: Mucopolysaccharides like allantoin and vitamin "C" make the skin more healthy by oxygenating and hydrating the tissues. These effects give immediately a freshness feeling
- 6. ANTIOXYDATING ACTION: Vitamin "E" counteracts the free radical's action with an anti-aging effect supporting and protecting the hydrating action of other snail secretion's components.





### **SNAIL SECRETION FILTRATE 99% PURE**

#### Ingredients:

snail secretion filtrate, caprylyl glycol, phenethyl alcohol

#### Fully natural:

0% silicones, 0% petrolatum, 0% parabens, 0% Peg, 0% allergens, 0% Ogm, 0% synthetic perfumes

#### nickel tested

Thanks to the natural combination of its components, the snail secretion filtrate is especially efficacious against:

- Wrinkles
- Expression signs
- Scars
- Burns
- Exanthematic pathologic's signs
- Stretch marks
- Discolorations
- Acne
- Physiological and pathological dehydration
- Bedsores
- Irritations
  Herpes
- Inflammations like eczema and dermatities
- Hair dryness
- Insect's bites
- Aftershave
- After depilation

Finding uses in all the skin's type with an immediate absorption:

- Normal 
  Mixed 
  Oily
- Dry
  Sensitive
  Acneic

### **Applications:**

Apply in the interested skin area and massage until complete absorption.

Apply only on clean and dry skin.

These products are not greasy.

According to different skin's kinds, we recommend not to exceed three applications per day, at least four hours apart from each other. Do not exceed the recommended doses or decrease the applications if a dehydrated state occur due to the water osmotic effect.

#### Feelings:

Thanks to the described properties and the very high concentration of active molecules, it is possible to feel a tensor effect. Half an hour after application, you can feel indeed the skin "works". This feeling is more or less perceptible according to different skin's kinds.





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High genealogy Helix Aspersa Muller snails farm for the extraction of snail secretion filtrate for cosmetics purpose.



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Nature is always a step forward. In the entire pharmaceutical chemical history, people have always studied and taken advantages by considering ideas from animals and plants from all over our planet. Both ancient and today documents talk about the enormous benefits of snail and their natural secretion. This one is used by snails for many reasons: As lubricant for their movements preventing damage from crawling on the ground; as protection from diseases because of the antibiotic effect and at last but not least as a physic barrier (epiphragm) when they are preparing for lethargy protecting themselves from other animals and from the wintriness.



Besides being the symbol of the transition in the human history from hunt to farm as the first example of the systemic food production snails were considered like "moving pharmacies". Reading the publications of many historical scholars from the past as Ippocrate, Galeno, Plinio the old and Plinio the young, we can understand how much this mollusks were valued more like medic-

ament than nourishment. Those scholars were the first writing down on paper what for many years was handed down just orally. Some examples of ancient use of snail secretion are the findings of galenic preparations as creams, ointments and syrups.

More recently, the numerous discoveries on snails conducted by researchers from all over the world, were based on the preliminary observation of these animals in relation to the surrounding environment and on the subsequent with the correlation between environmental hostilities and the endogenous production of substances, structures and defensive mechanisms that characterize the precious base of natural compounds. For example, what stimulates the curiosity of researchers was how snails were the only living form nearly Chernobyl that were not exposed to genetic mutations as a consequence of the very powerful radiations released in the sadly known nuclear accident.