

MOLECULAR • LAB

Active Ingredients discovery

Sinerga
SKIN EVOLUTION

UNEXPECTED THREE-DIMENSIONALITY

Facing current demand for more reliable and scientifically substantiated ingredients, developments in the skincare market are becoming more and more driven by **high tech analysis and investigations**. Following this evolution, Sinerga presents its **new approach to active ingredients discovery**.

SINERGA MOLECULAR LAB



THE CONCEPT

From the perfect mix of **chemical, biological and biotechnological expertise**, Sinerga has created its brand new **Molecular Lab**: a highly qualified R&D department dedicated to the **investigation on the interaction of potentially interesting molecules with skin's main targets**.

THE AIM

The aim is to **predict the potential activity and cosmetic efficacy of a certain molecular structure** starting from **"in silico" studies**. These can mimic the interaction with biological structures and foresee the potential skin care activity, in order to better direct in vitro and in vivo efficacy screenings.

The result of the research leads to the **creation of pure active ingredients**, highly effective, that can be offered on an exclusive basis.

METHODOLOGY

Sinerga Molecular Lab follows high-tech methodologies to discover new active ingredients.



1 Preliminary studies

Literature examinations allow the screening among the latest findings in science of **new potential active ingredients** or already known molecules that may turn to be of cosmetic interest. Besides that the creation of a new ingredient is supported by *in silico* analyses.



2 In Silico TEST: Molecular Modelling

It originated as a **tool to visualize three-dimensional structures and to simulate, predict and analyze the properties and behavior of the molecules** at the atomic level. Relying on the **free energy of the molecules**, molecular modeling can estimate the **probability of interaction** with either a definite target or a complete database of biological interactors.

Molecular Modelling permits to find out:

- Structural similarity to known molecules and their activity
- The best molecule interactions
- Eventual structural modification to enhance the interaction with the target



3 In Vitro TEST

Tests *in vitro* allow to define and describe the active ingredient mechanism of action on the cells.

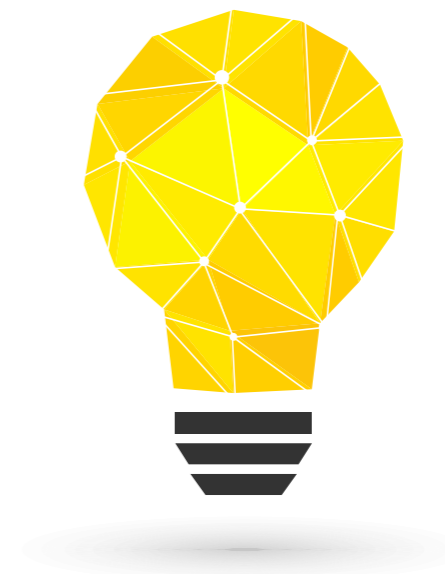


4 In Vivo TEST

Tests *in vivo* allow to confirm on volunteers the results previously foreseen by the research.

BENEFITS: PREDICTING INNOVATION

Thanks to the research activity of Sinerga Molecular Lab is now possible to give more strength and trust to the study of molecules and to develop new effective active ingredients for skincare applications.



Research and Development benefits:

- ✓ Predict the molecular interaction.
- ✓ Foresee the ingredient efficacy.
- ✓ Evaluate a broader spectrum of activity of a molecule, investigating new fields of applications.
- ✓ Better direct further *in vitro*/*in vivo* tests.
- ✓ Drive the efficacy tests to substantiate activity claims.

OUTPUT: PURE ACTIVE INGREDIENTS

The detecting work of Sinerga Molecular Lab leads to discovery **active ingredients both characterized in depth and pure.**



They are obtained by cutting-edge technologies that allow to extract the purified active fraction of the molecule and guarantee an activity even:

- + SPECIFIC
- + CONCENTRATED
- + EFFECTIVE
- + BIO AVAILABLE
- + SAFE

The molecules output of the Molecular Lab research can be applied in the fields:

-  COSMETIC
-  DERMATOLOGICAL
-  NEUTRACEUTICALS

HOW IT WORKS

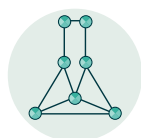
Sinerga is involved in the whole developing process: from the preliminary research, molecule identification to the industrial manufacturing scale up of the active ingredient itself.

The active ingredients can be offered on an exclusive basis to cosmetic, dermo-cosmetic and pharmaceutical brands.



Sinerga Molecular Lab offers three different levels of service:

- 1 Characterized molecules, with proven efficacy.
- 2 Customization of the molecule activity, on the specific client's needs.
- 3 Full molecule customization.



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For more information on Sinerga Molecular Lab activity and results, please contact at
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