FROM NATURAL COMPOUND TO VALIDATED PRE-CLINICAL LEAD

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SOURCING OF NATURAL COMPOUNDS

Acces to complexity and originality

- Selection of **high potential species**
- Species choice made on bibliography, traditional uses, assumption based on relevant biotopes
- **Large capacity of discovery**: already hundreds of plant extracts with potential active compounds

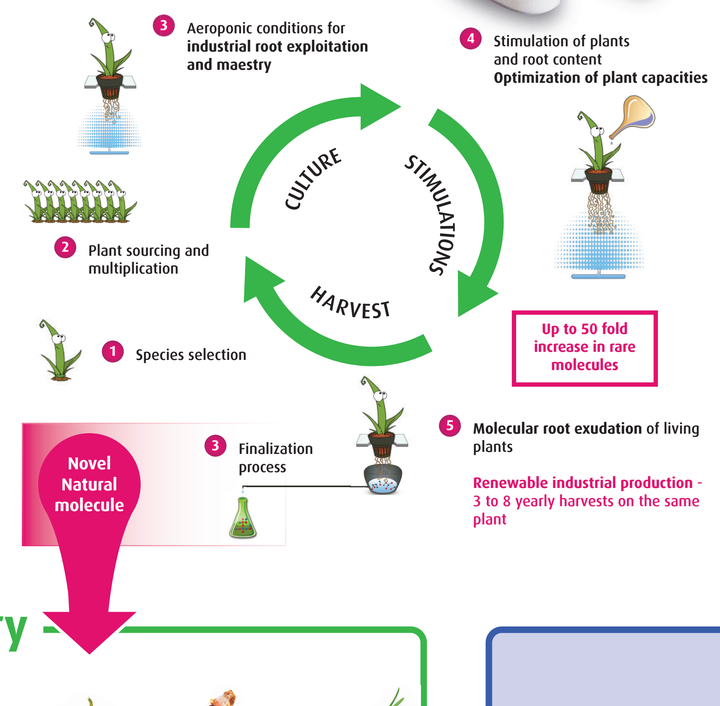
Supply the right quantity

Drug history → Pre-clinical Research (→ mg supply) → Clinical trials (→ gram supply) → Manufacturing (→ kg supply)

- **Supply of natural extract** or purified molecule for your assays
- 2 production sites for industrial scale production - security of supply with back-up factory chain
- Standardized lots - all our activities are ISO9001 certified

Plant Advanced Technologies

PAT is the **pioneer** in root optimization and exploration thanks to PAT's patented technology PAT plant milking®. The plant biotechnology company specializes in identifiying, optimizing and producing **rare, new active compounds of plant origin** designed for pharmaceutical, cosmetic and agrochemical markets.

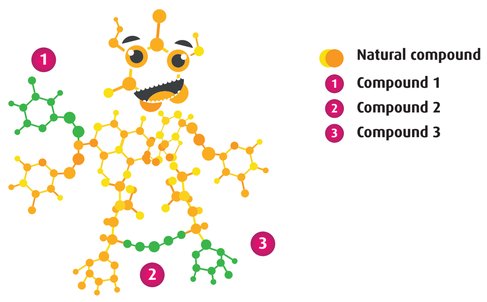


Exclusive aeroponic greenhouses R&D and production centers

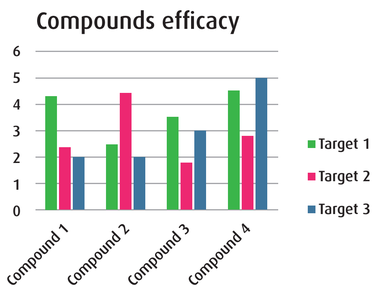
- Easy access to **root-specific natural products**
- Global mastery of plant environment, enabling **specific optimization** of plant physiology and compounds
- Unlock the potential of **chemical biodiversity** from any plants, as well as from root part
- Study of hundreds of new plant species each year at PAT

Medicinal Chemstry

Structure optimization



Increase pharmacology and efficacy



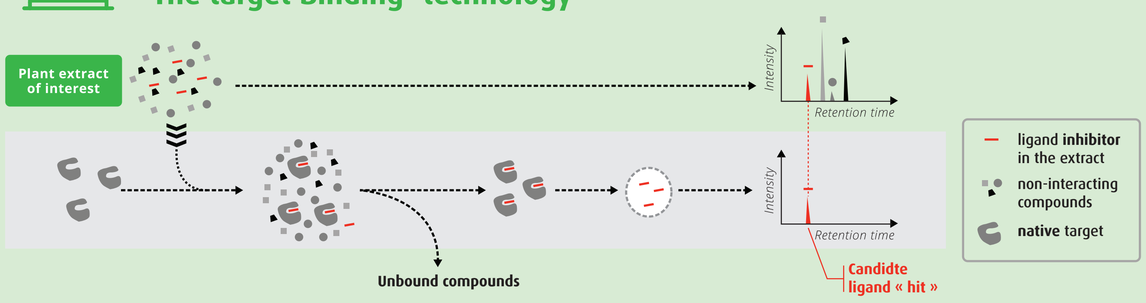
Speed-up the «Hit to Leads»

Make the natural product patentable

WIPO
WORLD INTELLECTUAL PROPERTY ORGANIZATION

Dedicated platform to fastly fish your hits in plant extracts

The target Binding® technology



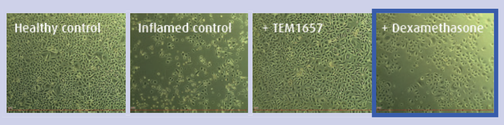
temisis therapeutics

Proof of concept with TEM1657, novel pharmaceutical APIs in dermatology

TEM1657 is an **hemisynthetic compound**. The natural scaffold is obtained in the PAT greenhouse using PAT Plant milking® technologies. The hemi-synthesis has been performed in PAT chemistry laboratory.
The **remarkable efficiency** of the compound in inflammation model brings it to advanced **preclinical stage**. This asset is now the property of TEMISIS which carried out the clinical development.

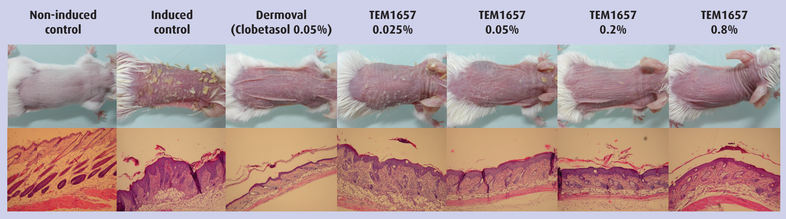
Some significant results:

Microscopic view of PMA-inflamed Human Keratinocytes



After 48h, TEM1657 not only **decreases the inflammation**, but it also **preserves cell integrity**

TEM1657 restores skin shape in a dose-dependant manner



Perspective:

Assays to run:

- Regulatory toxicology *(end of 2018)*
- Clinical phase I *(mid-2019)*
- Clinical phase II *(not planned yet)*
- FDA & EMA review

TEMISIS AT A GLIMPSE: Temisis is a company of the Plant Advanced Technologies PAT Group.
The company is a therapeutic company focusing on the development of small-molecule assets for the treatment of unmet needs in dermatology. Its main asset, TEM1657, shows similar efficacy as market reference corticosteroids to remove psoriasis symptoms at pre-clinical stage, but with no observed side-effects

Collaborative programs

BIOPROLOR 2
Collaborative research program
- Launched in 2017 - 5 SMEs and 2 academic labs
- Regional financial participation (FEDER)
- Goals: from the discovery of new active biomolecules up to the market launch

TerpFactory
LabCom in plant biology
- Launched in 2014 - PAT and Strasbourg IBMP
- Financed by ANR
- Goals: produce high value molecules through metabolic engineering

PAT Zerbaz
Innovative program
- Launched in 2017 - PAT and Reunion Region
- Financed by Reunion Region.
- Goals: valorize plant ressources of the Reunion Island

PAT Plant Advanced Technologies

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