

A close-up photograph of a dense network of light-colored, fibrous plant roots. Numerous small, clear water droplets are clinging to the roots, creating a glistening effect. The background is dark and out of focus.

# PAT Plant Milking®

Find the roots of your actives

**PAT**



Plant Advanced Technologies




Open **new fields**  
of possibilities

Roots, the richest yet widely unexplored part of plants

A living process  
for **living plants**

Root exudation: a non-destructive process "milking" the same plants several times a year



Custom **sourcing**  
solutions

Giving access to actives from rare to difficult to grow species

High yield of **high value compounds**

Large production fields are replaced by few stimulated plants

## Partner with PAT to create your Exudactive®

PAT plant milking®\* brings a sustainable sourcing solution to produce your exclusive and personalized Exudactive®. Get more concentrated and more active extracts through plant stimulation and gentle living root exudation, while preserving plants.

# Custom-made collaboration for your innovative projects

Natural products derived from plants have been used for decades as a prominent source of active molecules to meet the demands of the cosmetic and pharmaceutical industries. However, large quantities of these molecules are often hard to produce on an industrial scale due to the erratic content level of compounds or the availability of the botanical source. This major concern has impeded the industrial development of many promising new active compounds from plants.

Higher plants are generally estimated at 450,000 species, and only a limited number of these have been seriously investigated. As a result, the plant kingdom is usually recognized as one of the most diverse and abundant sources of potentially active compounds.

Plant Advanced Technology PAT develops in France a new solution for producing plant secondary metabolites in order to ensure adequate supply: PAT plant milking® technology uses root exudation of soilless grown plants. One of the main benefits of this technology is that plants are reused during the production process. This allows rare, slow-growing or protected species to be used as "molecular factories", producing active compounds in greenhouses. Normal levels of the substances are enhanced with elicitation and specific culture adjustments. Root exudation yields higher-purity extracts than the traditional biomass extract.

Milking the plants will help to source and secure new active ingredients.

*Professor Frédéric Bourgaud,  
VP Research,  
Plant Advanced Technologies PAT.*



Industrial  
production

Your  
Exudactive®

PAT plant milking®  
Collaborative product  
development

Choice of  
plant species

Species proposition  
Targeted molecule  
Cosmetic activity

-  Collaboration on exclusive basis
-  Personalized development of unique innovative ingredients
-  Quality and quantity guaranteed – QMS Industrial production of your Exudactive®



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Find the roots of your actives



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