PIERRE FABRE CDMO

Active Ingredients for Pharma and Nutraceutical/Cosmetics

2019
Active Ingredients for Pharma and Nutraceutical/Cosmetics: 2 manufacturing sites

**GAILLAC SITE**
(France)

- In operation since 1976
- GMP, FDA and EMA approved
  - ISO 14001, Ohsas 18001
- Plant extraction & Purification
- Hemi-synthesis, Chemical Synthesis
- High potent
- 225 associates
- 90% Pharma Activity
- >80 API and active ingredients
- >1500 MT of dry plant processed/year

**VIRREY DEL PINO**
(Argentina)

- In operation since 1964
- GMP certificate, USP Verified
  - ISO 9001 and 14001, Ohsas 18001
- Plant extraction & Purification
- Animal tissue extraction
- Hemi-synthesis
- 100 associates
- 90% Pharma Activity
- >1500 MT of Animal tissue processed/year
Nutraceutical & Cosmetic Ingredients

- Raw material sourcing
- Extraction
- Concentration
- Hemi-synthesis
- Purification
- Drying

Pharmaceuticals Intermediates & Active Ingredients

- Fine Chemistry
  - Acetylation, Chlorination
  - Fluorination, Methylation
  - Racemisation, Reduction, Hydrogenation, ...
  - Purification, isolation
  - Drug Delivery

480 tons of plant-derived APIs/year
- Vinca roots: 300 T/y
- Vinca leaves: 300 T/y
- Serenoa repens seeds: 250 T/y
- Ruscus: 200 MT/year
Active Ingredients for Pharma and Nutraceutical/Cosmetics

2 production technology platforms

**Plant Cell Culture (PCC)**
- API production from vegetable origin
- Adapted to rare plant species, protected or difficult to grow
- Facilitated extraction and purification
- Source of new APIs (e.g., triptolide)
- Green chemistry approach

Plant → Callus → Cell suspension → Wave bioreactor

**Supercritical fluids (SC-CO$_2$)**
- Solvent-free approach, green chemistry
- Patented processes for products development, lifecycle management or formulation of APIs

cGMP compliance to manage a large diversity of APIs, including poorly bioavailable and insoluble APIs, from a few grams to commercial batches (reactors from 0.25 to 50 litres)
THANK YOU

Contact us:
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