



CUSTOM SERVICES

PLANTS FOR **PLANTS**®

# EXTRACTION, ISOLATION AND PURIFICATION OF NATURAL DERIVATIVES

Indena contract manufacturing and scientific research services for the extraction, isolation and purification of natural derivatives include a full range of manufacturing capabilities for food and pharma grade ingredients on a wide range of scales.

The combination of Indena's expertise and state-of-the-art facilities delivers products and processes from small scale to large commercial manufacturing operations.

Indena's R&D center is located in Italy. All the facilities incorporate separate authorised areas for handling pharma and food grade natural derivatives, and the Quality System ensures compliance with cGMP and Hazard Analysis and Critical Control Points (HACCP) guidelines.

## INDENA CUSTOM SERVICES FOR EXTRACTION, ISOLATION AND PURIFICATION OF NATURAL DERIVATIVES OFFER:

Scientific research services in the field of botanical extracts for use in the chemical, pharmaceutical, hygienic and beauty care fields.

Extraction, isolation and purification process development, scaling-up and manufacturing

Phase-specific analytical development and validation

Control of incoming raw materials and biomasses

Characterization, certification and control of incoming raw materials and biomasses

Agronomical development and GACP (Good Agricultural Collection Practices) compliant cultivation of food and medicinal plants

QC testing of in-process materials

Stability studies according to ICH guidelines

Commercial production of APIs in Italian AIFA and US-FDA inspected manufacturing sites

High containment areas

Food commercial production scale in authorized areas

## QUALITY MANAGEMENT

DEDICATED QA UNITS

TRAINED AND EXPERIENCED PERSONNEL

ICH COMPLIANCE

ISO14001 ACCREDITATION

CGMP AND HACCP





## FEATURES

HAMMER AND KNIFE GRINDERS

STATIC AND DYNAMIC PERCOLATORS

LIQUID-LIQUID EXTRACTORS

REACTORS

CONCENTRATORS (ALSO THIN LAYER)

LARGE SCALE CHROMATOGRAPHY

CENTRIFUGES

FILTER-PRESS

STATIC AND DYNAMIC DRYERS

MICROWAVE DRYERS

SPRAY DRIERS (INCLUDING FROM ORGANIC SOLVENTS)

MILLS AND SIEVES

MIXERS

HIGH CONTAINMENT AREAS EQUIPPED WITH GLOVE BOXES

## OPERATIONS

GRINDING

EXTRACTION

CONCENTRATION

ISOLATION

PURIFICATION

CRYSTALLIZATION

DRYING

WEIGHING

PACKAGING

CHROMATOGRAPHY

SEMISYNTHESIS

## SERVICES

BOTANICAL R & D

AGRONOMICAL R & D

GACP CULTIVATIONS

PROCESS DEV.

SCALING-UP

PROCESS VALIDATION

MANUFACTURING

SCIENTIFIC RESEARCH

## ANALYTICAL CAPABILITIES

HPLC-RID

HPLC-DAD

HPLC-ELSD

HPLC-FD

DNA ID

ELISA

HPLC-MS

UPLC-UV

UPLC-DAD

GC-FID

GC-NPD

HPTLC

TOC

DVS

TG/DTA

DSC

SUNTEST

BIOANALYZER

MICROSCOPY

PPSL

XRPD



Indena is the leading company dedicated to the identification, development and production of high quality active principles derived from plants, for use in the pharmaceutical, health food and personal care industries. Backed up by over 90 years of botanical experience, the company holds more than 120 primary patents, has published more than 700 scientific studies and co-operates with the world's most prestigious universities and private research institutions. Indena employs about 800 staff, investing around 10% of its annual turnover in research, making this activity the key to its success.

Headquartered in Milan, Indena has 5 production sites and 5 international branches throughout the world and manages sales in more than 70 countries. The Company's experts communicate and interact constantly with the major international regulatory authorities such as WHO, EMA, FDA and ESCOP, and cooperate on the update of all the main pharmacopoeias.

Today, Indena supplies also capacity and expertise for custom manufacturing services and related key technologies. In particular, the company expands its offering with a new kilolab to handle semisynthetic and total synthetic APIs that require high containment (down to 20 ng/m<sup>3</sup> OEL - SafeBridge®Class 4).

#### CONTACT US

Indena S.p.A.  
Viale Ortles, 12  
20139 Milano, Italy  
custom@indena.com

Indena.com

