



## Instrumentation – France

### Liquid Chromatography

HPLCs & UPLCs Waters / Agilent / Thermo / Shimadzu /Merck-Hitachi	27
Detectors	
Ultraviolet (UV)	17
Refractive index (RI)	2
Fluorescence (FLD)	2
Photodiode Array (PDA)	6
Electrochemical (ECD)	2
Pulse Amperometry (PAD)	1
Evaporative Light Scattering (ELSD)	1
Charged Aerosol (CAD)	1
Mass Single Quad (Waters QDA)	1
Post Column Derivatization Modules	2
Fraction Collector	1
Dionex Ion Chromatography (Conductometry)	2
Amino Acid Analyzers	2

### Gas Chromatography

Agilent/ Thermo GCs (FID and TCD)	10
Headspace Autosamplers	4
Headspace Autosamplers MS	1
Agilent GC-MS (Liquid Injection and Headspace Autosampler)	1
Thermo GC-MS (Liquid Injection and Headspace Autosampler)	1
Elemental Composition (CHNOS) Analyzers (Thermo)	3

### Spectrophotometry

Thermo/Agilent Fourier Transform Infrared Spectrophotometers	2
Thermo/Agilent UV/VIS Spectrophotometers	4
Sotax UV/VIS Spectrometer	1
Spectrocolorimeter HunterLab ColorQuest	1

### Elemental Analysis

Inductively Coupled Plasma (ICP-MS) Spectrophotometers (Agilent)	3
Inductively Coupled Plasma (ICP-OES) Spectrophotometers (Agilent)	3
HPLC Hyphenated with Inductively Coupled Plasma (ICP-MS) Spectrophotometer (Agilent)	1
Varian Graphite Furnace Atomic Absorption Spectrometer	1
Varian Flame (Acetylene and Nitrogen Protoxyde) Atomic Absorption Spectrometer	1
Perkin Elmer Flame (Acetylene) Atomic Absorption Spectrometer	1
Cold Vapour and Hydride Generators (As, Hg) for AAS and ICP-OES	2
Anton Paar Microwaves	2
Hot Block Courtage Analysis	1

### Microbiology

Microbiology laboratories with controlled access (Paris, Colmar and Lyon)	3
Microbiology Security Cabinets	14
Filtration Systems	4
Micro Plate Readers (Endotoxin Test – Kinetic Method)	2
Water baths (Endotoxin Test Gel Point)	3
Isolator 3 Gloves	1
Isolator 6 Gloves	1
Refrigerators -70°C	2
Incubators	15
Refrigerators	6


**Microbiology (cont.)**

Microscope	1
Cold Walking Chamber	1
Labguard II (Temperature Monitoring 21CFR Part 11 System)	1
Thermotracer (Transportation Temperature Monitoring System)	1

**Thermal analysis**

Differential Scanning Calorimeter (TA Q100) with Modulation	1
Flash Point Analyzer	1
Melting Point Analyzers	2

**Biochemistry**

Thermo Multiscan Microplate Reader ELISA	1
Labtech Microplate Reader ELISA	1
Well Washer and Plate Incubator	1
Invitrogen Generator	1
Invitrogen Xcell SDS PAGE Tanks	2
GE Healthcare Generators	2
Cryostors	2
GE Multiphor SDS PAGE/IEF Tanks	4
GE Healthcare Scanner	1
Imaging Electrophoresis Protein Sample iCE3	1
Capillary Electrophoresis (Sciex)	1
Freeze Dryer	1
Micro Spectrophotometer Nanovue Plus	1
SpeedVac	1
Eldex Protein Hydrolysis Station	1
Dynamic Light Scattering Analyser and Zeta Potential Analyser (Malvern Zetasizer Nano ZSP)	1

**Facility Monitoring (Water, Gas, Clean Rooms)**

Total Organic Carbon Analyzers (TOC)	3
Particle Counters	3
Micro GCs (FID and TCD)	2
Hygrometers	2
Infra Red Analyzers (CO and CO <sub>2</sub> )	2
Electrochemical Oxygen Analyzers	2
Paramagnetic Oxygen Analyzers	2
Chemiluminescence Analyzers	2
UV Fluorescence Spectrophotometers (with Oxidation Module)	2
Draeger Tube Systems	2
Bio Impactors	5

**Stability Storage**

25°C ± 2°C/60% RH ± 5% RH	379 m <sup>3</sup>
25°C ± 2°C/40% RH ± 5% RH	108m <sup>3</sup>
30°C ± 2°C/35% RH ± 5% RH	42 m <sup>3</sup>
30°C ± 2°C/65% RH ± 5% RH	103m <sup>3</sup>
30°C ± 2°C/75% RH ± 5% RH	111m <sup>3</sup>
40°C ± 2°C/75% RH ± 5% RH	82 m <sup>3</sup>
40°C ± 2°C/ (NMT) 25% RH	42 m <sup>3</sup>
40°C ± 2°C/20% RH ± 5% RH	42 m <sup>3</sup>
49°C ± 2°C/30% RH ± 5% RH	92 m <sup>3</sup>
Customized (x4)	3.9 m <sup>3</sup>
20°C ± 5°C	805 m <sup>3</sup>
5°C ± 3°C	1,219 m <sup>3</sup>


**Stability Storage (cont.)**

- 20°C ± 5°C	11 m <sup>3</sup>
- 80°C ± 5°C	6 m <sup>3</sup>
Cycling (-100° ≥ 90°C; 25° ≥ 90 % RH) 2 Units	3 m <sup>3</sup>
Explosion Proof Chambers	276 m <sup>3</sup>
Photostability (Regulation on Lux and Temperature)	0.3 m <sup>3</sup>
SCAD5 (Monitoring System for Humidity, Temperature and Alarm)	1

**Clinical Packaging**

Primary Packaging Room 20°C± 5°C/<40% RH (x2)	40 m <sup>3</sup>
Primary Packaging Room 20°C± 5°C/<65% RH (x1)	20 m <sup>3</sup>
Secondary Packaging Room at 5°C± 3°C	1 room
Secondary Packaging Room 20°C± 3°C	5 rooms

**Molecular Biology**

Genetic Analyzers	3
Thermocyclers	5
Biosafety Cabinets	3
BioChip Fluorescence Scanner	1
MicroPlate Reader	1
Gel Documentation System	1

**Miscellaneous**

Laser Diffraction Particle Size Analyzer Malvern Mastersizer 3000 (Aero S and Hydro MV Accessories)	1
Laser Diffraction Particle Size Analyzer Beckman Coulter	1
Laser Diffraction Particle Size Analyzer Microtrac	1
Air Jet Siever (Hosakawa)	1
Volumetric Karl Fischer Systems	2
Coulometric Karl Fischer System with Head Space Autosampler	1
Electronic Titrators with Autosampler	2
Polarimeters	2
Refractometers	2
Densimeters	2
Rotational Viscometers (Brookfield & Haacke)	3
Rheometers (Brookfield)	2
Sotax Dissolution Baths	6
Disintegration Baths	2
Dimensional and Morphological Analyzer (Mitutoyo)	1
Turbidimeter	1
Moisture Balance	1
Penetrometer	1
Osmometer	1
Friabilimeters	2
Hardnessmeters	2
Traction and Compression Machine	1
Dynamometers	2
Microscope	1
Turbotest Rayneri Mixer	1
Ultra Turax Mixer	1
Spark Tester (Plastic and Coating Porosity)	1

**Metrology**

2 full-time calibration specialists with extensive in-house preventative maintenance and parts inventory