
BIOPHARMA CDMO

Human Health

DEVELOPMENT AND MANUFACTURING
OF VACCINES AND OTHER BIOLOGICAL
PRODUCTS

:CZ VACCINES



ABOUT US

We are part of ZENDAL, a biopharmaceutical group dedicated to the research, development, manufacturing, and commercialization of biologicals, pharmaceuticals, and probiotics for both human and animal health.



CZ Vaccines is a full-service provider with a strong expertise in vaccine development and manufacturing

We produce a wide range of vaccines against viral, bacterial, and parasite diseases, as well as other biological products.

With over 30 years of experience in the field, CZ Vaccines has provided its services to multinational companies, laboratories, and governments of more than 65 countries worldwide.



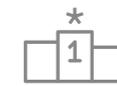
30

YEARS
IN VACCINES



+65

COUNTRIES
WORLDWIDE



1st

WORLDWIDE
PRODUCER OF
MYCOBACTERIA



11%

REVENUE
IN R&D

COVID-19 EMERGENCY

CZ Vaccines collaborated actively on the urgent development of solutions against COVID-19 disease through our research and manufacturing capabilities in several projects.

“ We are constantly expanding our facilities and capabilities to be state-of-the-art and ready to respond to the next pandemic.



ZENDAL

:CZ VACCINES

BIOFABRI

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zINEREO
PHARMA

PROBISearch

OVEJERO
LABORATORIOS

MAYMO

SERVICES

R&D

At CZ Vaccines, we have our own portfolio of vaccines, immunotherapy, and biological-based products. We have extensive scientific experience in developing new and ambitious projects that include different vaccine categories and platforms:

CONVENTIONAL VACCINES

GENETIC ENGINEERING
LIVE ATTENUATED VACCINES

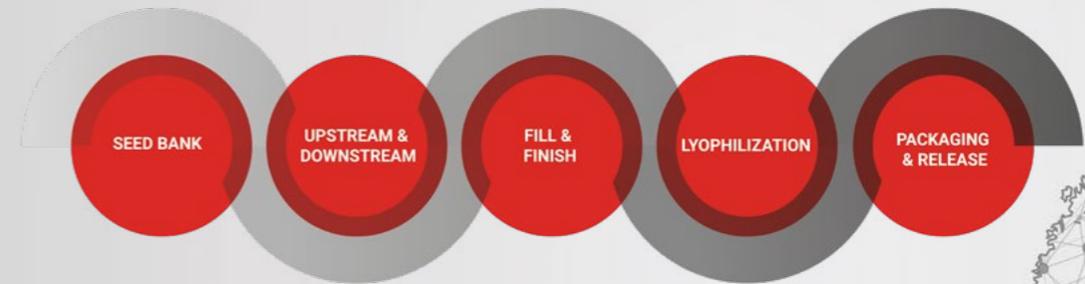
SUBUNIT VACCINES
(RECOMBINANT PROTEIN)

LAST-GENERATION
DNA VACCINES



CDMO ONE-STOP SHOP

At CZ Vaccines we cover the entire value chain, from contract development through clinical phases I to III, to commercial production.



LARGE-SCALE PRODUCTION FACILITIES

We have several biotechnological manufacturing plants in Spain and Portugal, equipped with cutting-edge technology and staffed by highly qualified professionals.

HUMAN AREA

O Porriño
(SPAIN)

Paredes de Coura
(PORTUGAL)

VETERINARY AREA

León
(SPAIN)

O Porriño
(SPAIN)

Barcelona
(SPAIN)



HUMAN HEALTH CDMO

End-to-End CDMO

Live and inactivated bacterial and viral vaccines up to BSL-2

Roller bottles, cell factory and wave bioreactors

Aseptic filling

Quality control: sterile and non-sterile, microbiological, chemical, physical, and biological testing

Process development and optimization

Single-use and stainless-steel bioreactors

Lyophilization for clinical trial material
Lyophilization for large-scale manufacturing

Storage:
(+2°- +8°C), (-20°C)
(-30°C), (-80°C)

Scale-up and cGMP manufacturing

Aseptic processing

DS and DP release

Labelling and Packaging

O PORRIÑO SPAIN

At our O Porriño facilities in Spain, we offer two distinct manufacturing plants to cater to the diverse needs of our clients. Our Investigational Medicinal Products (IMP) plant is ideally suited for small-scale projects, while our large-scale plant is designed to meet the needs of companies seeking to produce commercial batches of their products.

We can address the unique requirements of our clients and offer customized solutions that meet their specific needs. Our state-of-the-art facilities are equipped with cutting-edge technology and comply with the highest quality standards, ensuring that our clients receive exceptional service and reliable outcomes on every occasion.



Investigational Medicinal Products plant



Capacities

Upstream and downstream capabilities at small scale with flexibility for different capacities

Ultrafiltration and diafiltration

Chromatography (ÄKTA ready)

Filling & freeze-drying capacities

- 2R vials (possibility of adding other vial sizes)
- 1 Filling line: DARA Machine
 - 4000 vials/h
 - Automatic washing at 80°C
- 1 Lyophilizer: IMA machine
 - Up to 24 000 vials per run

Storage

(+2° - +8°C), (-20°C), (-30°C) and (-80°C)

Room classes

Seed rooms: Class A/B

Filling and lyophilization room: Class A

Dedicated personnel and materials entries and exits

Large-scale plant

Manufacturing

Upstream

Cell and virus cultivation

Culture process in wave bioreactors

Single-use bioreactors

- 2 x 50 L
- 3 x 200 L
- 3 x 2000 L

Blending mixer

- Single-use tank
 - 1 x 1500 L

Media preparation

Single-use mixers

- 2 x 3000 L
- 2 x 2500 L
- 1 x 1000 L
- 2 x 650 L
- 1 x 200 L

Downstream and purification

Single-use mixers

- 1 x 1500 L
- 1 x 650 L
- 1 x 500 L

State-of-the-art purification processes

- Chromatography (ÄKTA ready):
AxiChrom 800/300 and 450/300
- Ultrafiltration and diafiltration

Fill & Finish

Formulation and blending

- 1 x 350 L single-use tanks
- 4 x 600 L stainless-steel tanks
- 1 x 3000 L single-use tank
- 4 x 6000 L stainless-steel tanks

2 filling lines: DARA machines

- Capacity of each line based on vial size
 - Size 2R: 12 000 vials/hour
 - Size 10R: 10 800 vials/hour
 - Size 20R: 9600 vials/hour

Automatic visual inspection

- 2 x OPTREL machines

Storage: (+2 - +8°C), (-30°C) and (-80°C)

- Combination of inhouse and subcontracted capacity for more storage.

2 double-door autoclaves connecting the washing and depyrogenation tunnels room with each filling room

Room classes

Seed rooms: Class A/B

Filling & lyophilization: Class B

- Open Restricted Access Barrier System (Open RABs): Class A

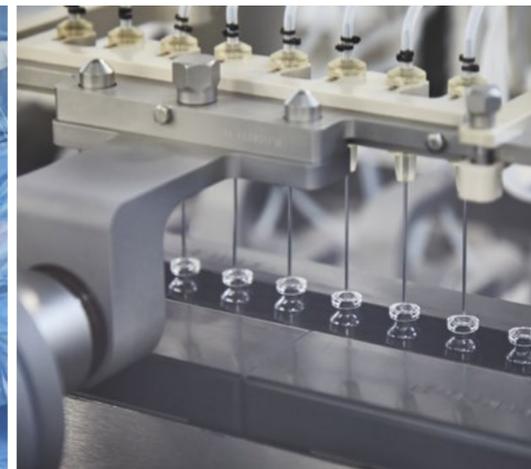
Dedicated personnel and materials entries and exits

PAREDES DE COURA

PORTUGAL

Located in Paredes de Coura, Portugal, our facilities offer state-of-the-art manufacturing technology for large-scale production. We prioritize innovation and continuously invest in the latest advancements to maintain our competitive edge. Furthermore, we are committed to expanding our operations in Portugal, with upcoming plans to build additional facilities in the coming years.

PAREDES DE COURA / PORTUGAL



Manufacturing

Upstream

- Culture process in flasks
- Biological security chamber
- Stainless-steel bioreactors
 - 1 x 100 L
 - 1 x 300 L
 - 2 x 2500 L

Media preparation

- Stainless-steel bioreactors
 - 1 x 300 L
 - 1 x 800 L
 - 2 x 3000 L

Downstream and purification

Our facilities are prepared to receive and install any kind of equipment. For now, the Downstream area has 6 stainless-steel bioreactors, a room prepared for chromatography and purification processes and two +4°C chambers.

Fill & Finish

- 1 filling line: IMA machine
 - Vial washing machine
 - Filling machine loading
 - Capacity for 2R vials: 24 000 vials/hour
 - Possibility of adding other vial sizes
 - Final washing machine
- 1 lyophilizer: IMA machine (capacity to add another lyophilizer)
 - Automatic lyophilizer with capacity of up to 180 000 vials per run

Storage: (+2 - +8°C), (- 20°C) and (- 80°C)

1 double-door autoclave connecting the washing and depyrogenation room with the filling room

Room classes

- Seed rooms: Class A/B (with a laminar flow cabinet class A)
- Filtration room: Class A/B
- Filling Line: Class B
 - Open Restricted Access Barrier System (Open RABs): Class A
- Dedicated personnel and materials entries and exits



:CZ VACCINES

A Relva, Torneiros s/n 36410
O Porriño, Pontevedra, Spain
(+34) 986 330 400
www.czvaccines.com

A COMPANY OF ZENDAL GROUP