

®

**T**ec**no**

*Animal byproducts*

# ABOUT US

Founded in 1997, Tecnoblen is a family company dedicated to animal by-products located in Canelones, Uruguay.

The company operates two owned processing plants authorized by the Uruguayan government (Ministry of Livestock, Agriculture and Fisheries, M.G.A.P.)

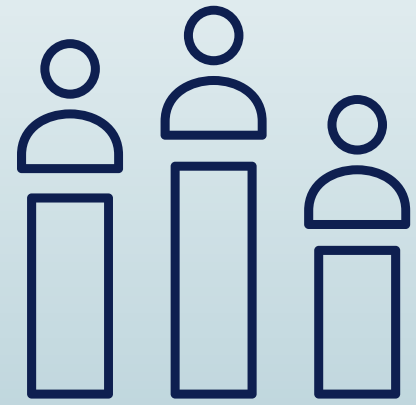


# **SINCE 2016...**

**our biopharmaceutical unit has the fetal bovine serum as its main product**

**We process blood obtained from bovine fetus of animals born, raised and slaughtered in Uruguay into raw serum**

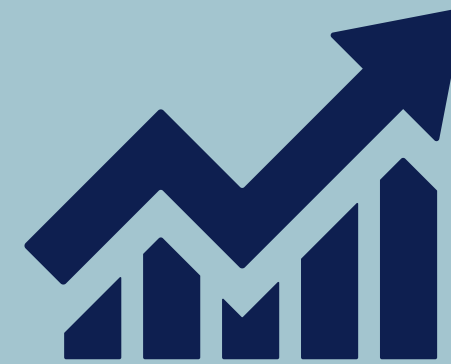
**Raw serum is afterwards filtered in order to obtain our final product**



# INDUSTRY STATUS

We are one of the  
largest serum  
company in Uruguay

Our production is 120.000  
to 150.000 bottles per year



# ANNUAL OUTPUT

Encourage good  
manufacturing practices  
while preserving natural  
resources and  
developing our  
employees capacities

# MISSION



# VISION

Pioneer the industry, grow  
economically and expand  
based on our compromise,  
quality and well  
established working  
processes

# PURPOSE



Collect, process and provide raw materials under strict quality standards, standardized processes and guaranteed regularity, seriousness and quality to all of our clients



INTERNATIONAL  
SERUM  
INDUSTRY  
ASSOCIATION

ISO 9001 CERTIFICATION



**China is currently the principal market for Tecno's serum and we plan to expand it even further**





# **OUR FACILITIES**





**Our plant plans gives us an unidirectional flow of production**



**Sala de  
esterilización**

**Sterilization room**

**灭菌室**





**The materials previously cleaned are sterilized in the autoclave at 121°C for 30 minutes and then placed in the oven at 55°C for 2 hours**

**All areas are cleaned and sanitized every day according to the recommended procedures, using solutions of sodium hypochlorite, benzalkonium chloride, 70% ethyl alcohol and ultraviolet light**



# **QUALITY CONTROL LABORATORY**

**Our quality control  
laboratory is equipped with  
top of the tier instruments**

## **BIOTEK EPOCH 2**



**Endotoxin, hemoglobin, IgG and Total  
protein determination**



**ELISA MICROPLATE WASHER**  
Effective microplate washer



**OSMOMETER**  
Osmolarity determination



**ADVANCED pH AND BENCHTOPMETER**  
pH Determination



# Tecnoblen 1 GT-Group Report

## Assay Information

Started At	7/3/2024 12:16:00 PM	Finished At	7/3/2024 1:27:00 PM
Operator	Laboratorio Tecnoblen		
Assay Time	60 (mins)	Time Interval	40sec
Measurement Wavelength ( WL1 )	405nm	Reference Wavelength ( WL2 )	650nm
Measurement Method	Kinetic	Calculate concentration	Value=>Calculate=>Average
Test Record Name	03.2024-1, 1, 2023-2 (Rev. 0)		
Test Record Comment	na		

## Instrument Information

No.	Name	Serial Number
1	Epoch2	24012510

## Kinetic Data Processing Parameter

Reduction Type	WL1	Onset OD	0.01500
Count	1(times)	Wait Time	40sec
Base Count	1	Linear interpolate 2points nearby onset OD	Used
Activation Time	Ta		

## Standard Curve Parameter

Regression Type for Concentration	Linear	Time/Conc Axis Type for Concentration	Log(X) Log(Y)
Regression Type for Linearity	Same Concentration	Time/Conc Axis Type for Linearity	Log(X) Log(Y)
Endpoint Unit	EU/mL	Use Mean Value	Not Used

## Standard Curve Information

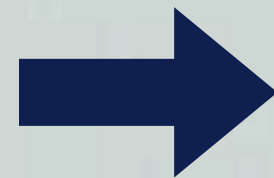
Type	Internal	Conc. Unit	EU/mL
Conc. Range	402 - 1440sec,(0,1+10, m=1)	Regression for Concentration	$\text{Log}(Ta) = -0.254952 \text{Log}(C) + 2.89938$
Regression for Linearity	$\text{Log}(Ta) = -0.254952 \text{Log}(C) + 2.89938$	Concentration r	+1.000
Linearity r	+1.000		

Our measurement equipment guarantees 100% accuracy in the results

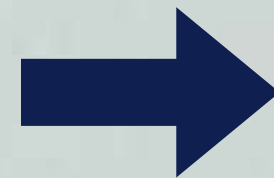
# **PRODUCTION PROCESS**

# FROM BLOOD TO FILTERED SERUM...

Blood  
Extraction

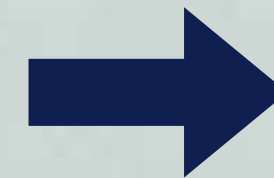


1st  
Centrifugation  
(45 minutes)

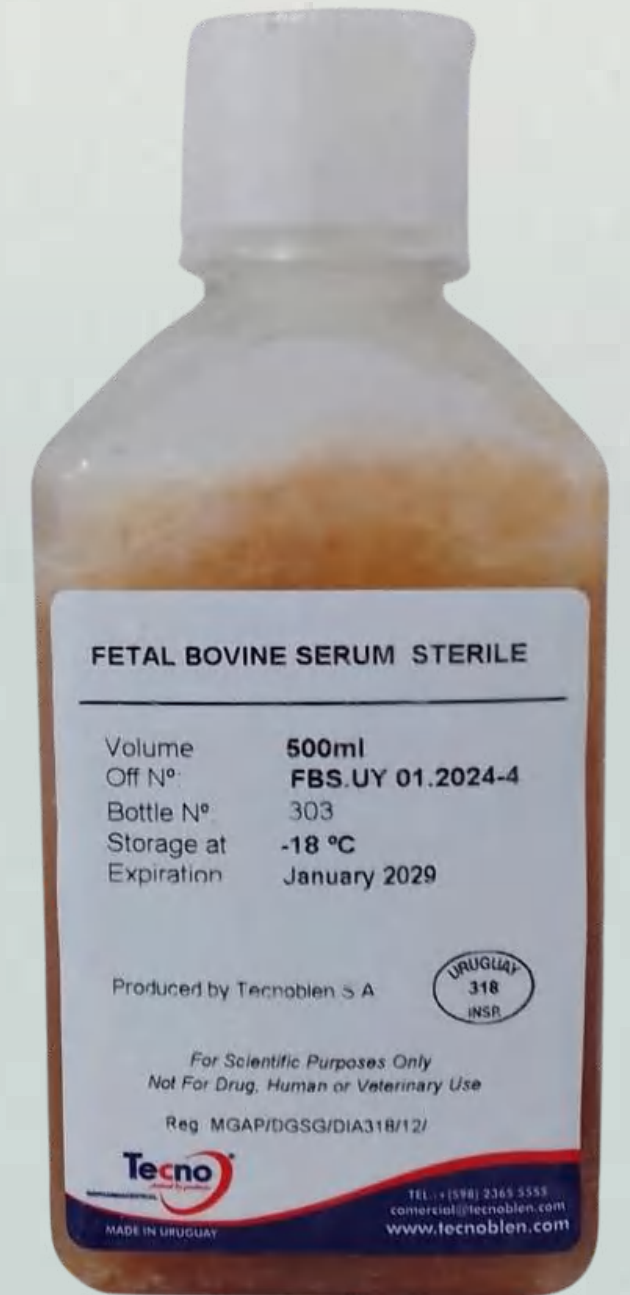


2nd  
Centrifugation  
(30 minutes)

Raw Serum  
Drum



Filtration &  
Dosification



Final Product

# **SERUM PRODUCTION**

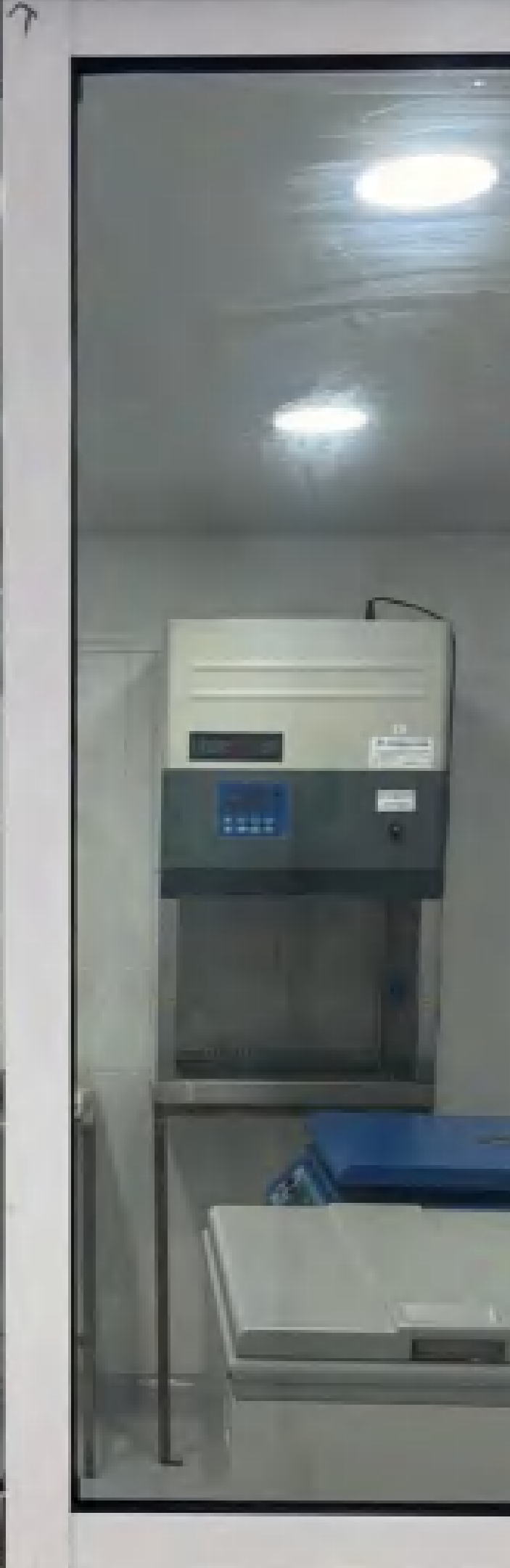
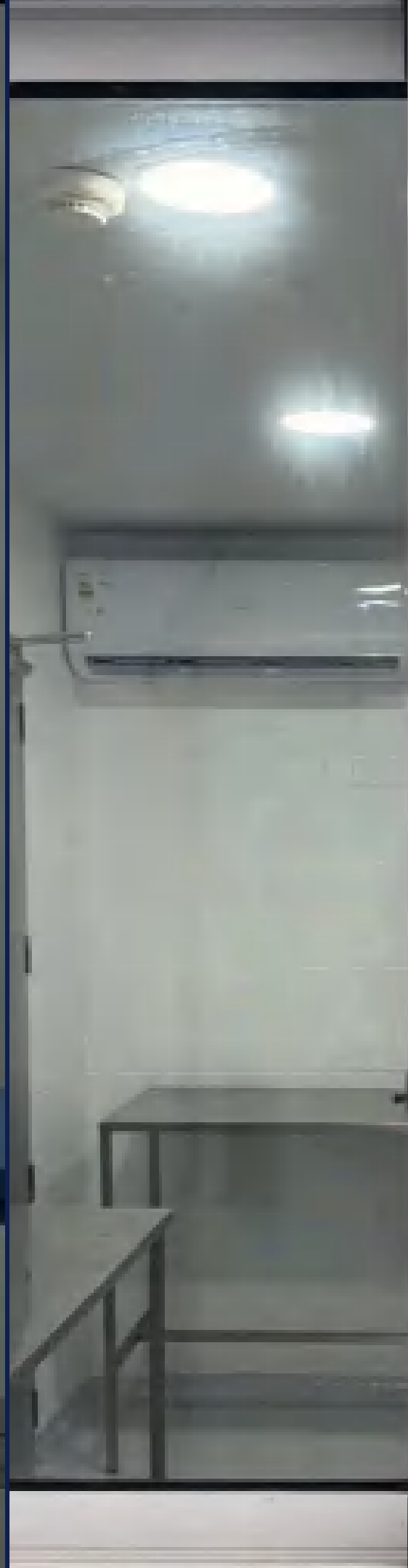


1st Centrifugation



2nd Centrifugation





**Tecno serum is obtained in situ using blood 100 % extracted from animals born, raised and slaughtered in Uruguay**



URUGUAY

# **RAW SERUM STORAGE**





Raw serum is placed in 4.25 kg containers and stored in the raw material chamber at  $-18^{\circ}\text{C}$  ❄️



**Cámara de  
descongelado 1**

Defrosting room 1

化冻室一





**Raw material is defrosted  
prior filtering in the  
defrosting chamber at 1°C.  
Samples are taken and  
analyzed in our quality  
laboratory**

# **FILTRATION PROCESS**



**Prefiltration system is assembled by connecting the hoses of the peristaltic pump to the biocontainer bag of the tank**



**Our closed triple 0.1 µm filtering system ensures sterility in the process.**



**Dosification of the 500 mL bottles.**

**FINAL  
PRODUCT**



**highest quality standards**

- Low endotoxin
- Triple 0.1µm filtered
- Gamma Irradiated

# PRODUCT SPECIFICATIONS



- < 25 mg/100ml Hemoglobin content
- < 10 UE/ml Endotoxin level
- < 300  $\mu\text{g/ml}$  IgG
- 2.50 - 4.50 g/dL Total protein
- 280 - 340 mOsm/kg Osmolarity
- 6.9 - 7.8 pH







# PRESENTATIONS

Bottles:

- 500 ml
- 125 ml



# APPLICATIONS

For scientific purposes such as immunology, virology, genetic engineering, pharmacology and other areas of biomedical research.

Not for human or verterinary application.

# CERTIFICATE OF ANALYSIS (COA)

Production batches  
guaranteed by our quality  
control manager and  
approved by Uruguayan  
authorities.

**Tecno**  
Animal byproducts

**Certificate of Analysis**


Batch N°: FBSUY 05.2024-1  
Filtration Date: 03/05/2024  
Expiration Date: May 2029  
Country of origin: Uruguay  
Country of final processing: Uruguay  
Storage Temp: -18°C

Fetal Bovine Serum  
Manufactured by:  
TecnoBlen Company  
Address: Route 67 s/n PTC Las Piedras  
Tel: +(598) 2365 5555  
www.tecnoblen.com.uy

For research use or further manufacturing use only. Serum and blood proteins are not for direct administration into humans or animals.  
Sterile filtered (triple 0,1um)

TEST	TEST ID	SPECIFICATION	RESULT	UNITS
Bacteria and Fungi	STER0006	Not detected	Not detected	-
Endotoxin	ENDO0007	0.0-10.0	2.4	EU/mL
Hemoglobin	HAEM0002	0.0-25.0	10	mg/dL
Osmolality	OSMO0002	280-340	332	mOsm/kg
PH	PH0003	6.9-7.8	7.39	-
Total protein	PROTE0001	3.0-5.0	3.5	g/dL
IgG	EUSA	<30	-	mg/dL
VT - BVDV Fluorescent Antibody	VIRUS0005	Not detected	Not detected	-

All fetal bovine blood is collected from fetuses derived from healthy dams that have passed pre and post-mortem verified veterinary inspection.  
All fetal bovine sera is traceable by date and location of collection.

  
QUALITY CONTROL  
Eugenia Pommerenck Date: 27-may-2024

**REFERENCES**  
STER0006: USP <71>  
ENDO0007: Analytical technique for the determination of bacterial endotoxins by turbidimetric kinetic method. USP <85> Bacterial Endotoxins Test  
EP 2.6.14. Endotoxins bacterianas.  
HAEM0002: Three Wavelength Polychromatic Analysis.  
OSMO0002: USP <785>.  
PH0003: USP <791>.  
PROTE0001: Tietz, Norbert W. : Biuret Method for the Determination of Total Protein in Serum and Exudates.  
Fundamentals of Clinical Chemistry, 1976, pages 302-304.  
EUSA: USP <1103>  
VIRUS0005: viral isolation or RT-PCR



## Certificate of Analysis

**Fetal Bovine Serum**

Manufactured by:

**Tecnoblen Company**

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-Tel: +(598) 2365 5555

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TEST	TEST ID	SPECIFICATION	RESULT	UNITS
Bacteria and Fungi	STERI0006	Not detected	Not detected	-
Endotoxin	ENDOD007	0.0-10.0	2.4	EU/mL
Hemoglobin	HAEMO0002	0.0-25.0	10	mg/dL
Osmolality	OSMO0002	280-340	332	mOsm/kg
PH	PH0003	6.9-7.8	7.39	-
Total protein	PROTEI0001	3.0-5.0	3.5	g/dL
IgG	ELISA	<30	-	mg/dL
VT - BVDV Fluorescent Antibody	VIRUS0005	Not detected	Not detected	-

# **FINAL PRODUCT STORAGE**

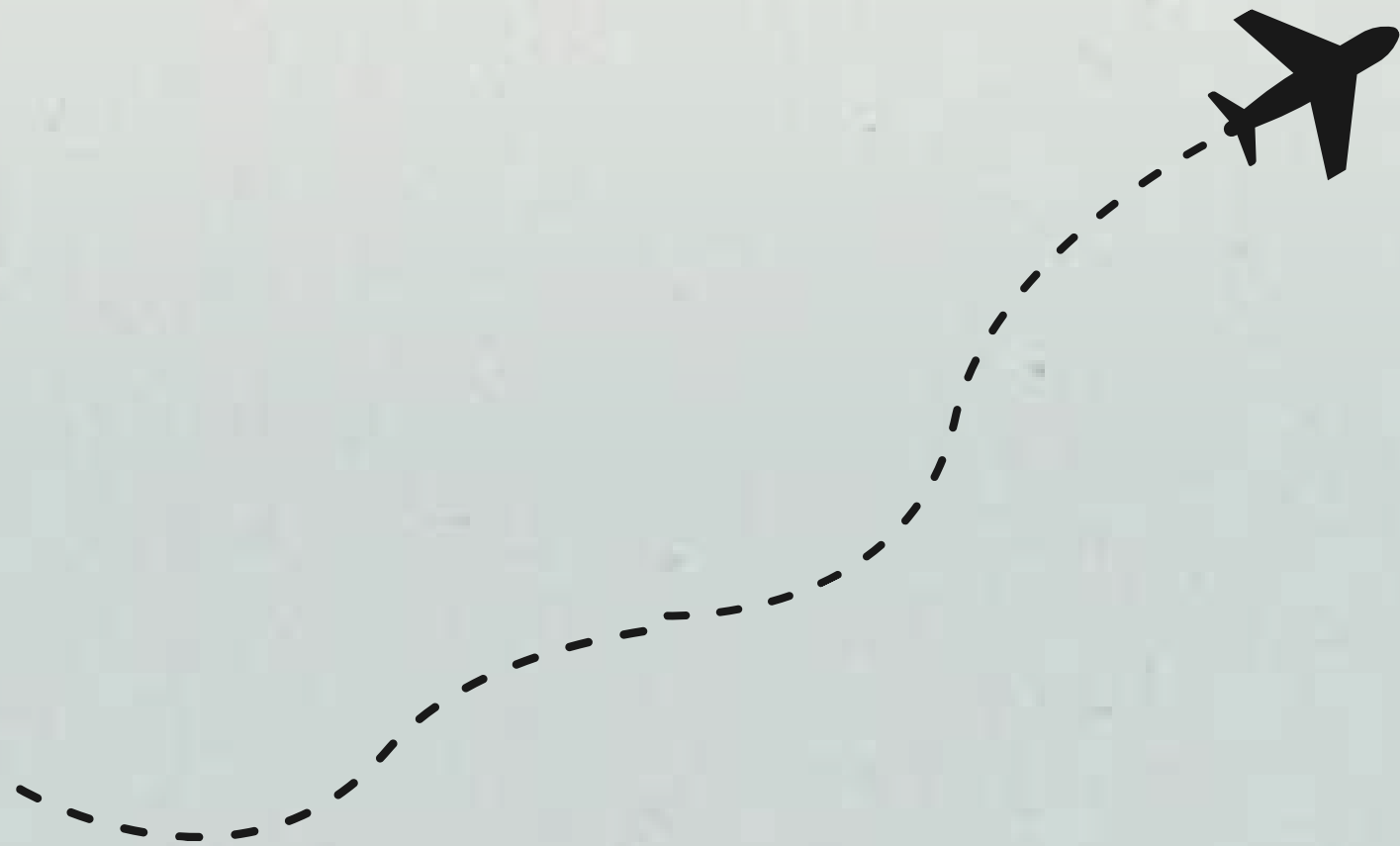


Cámara de  
producto  
terminado

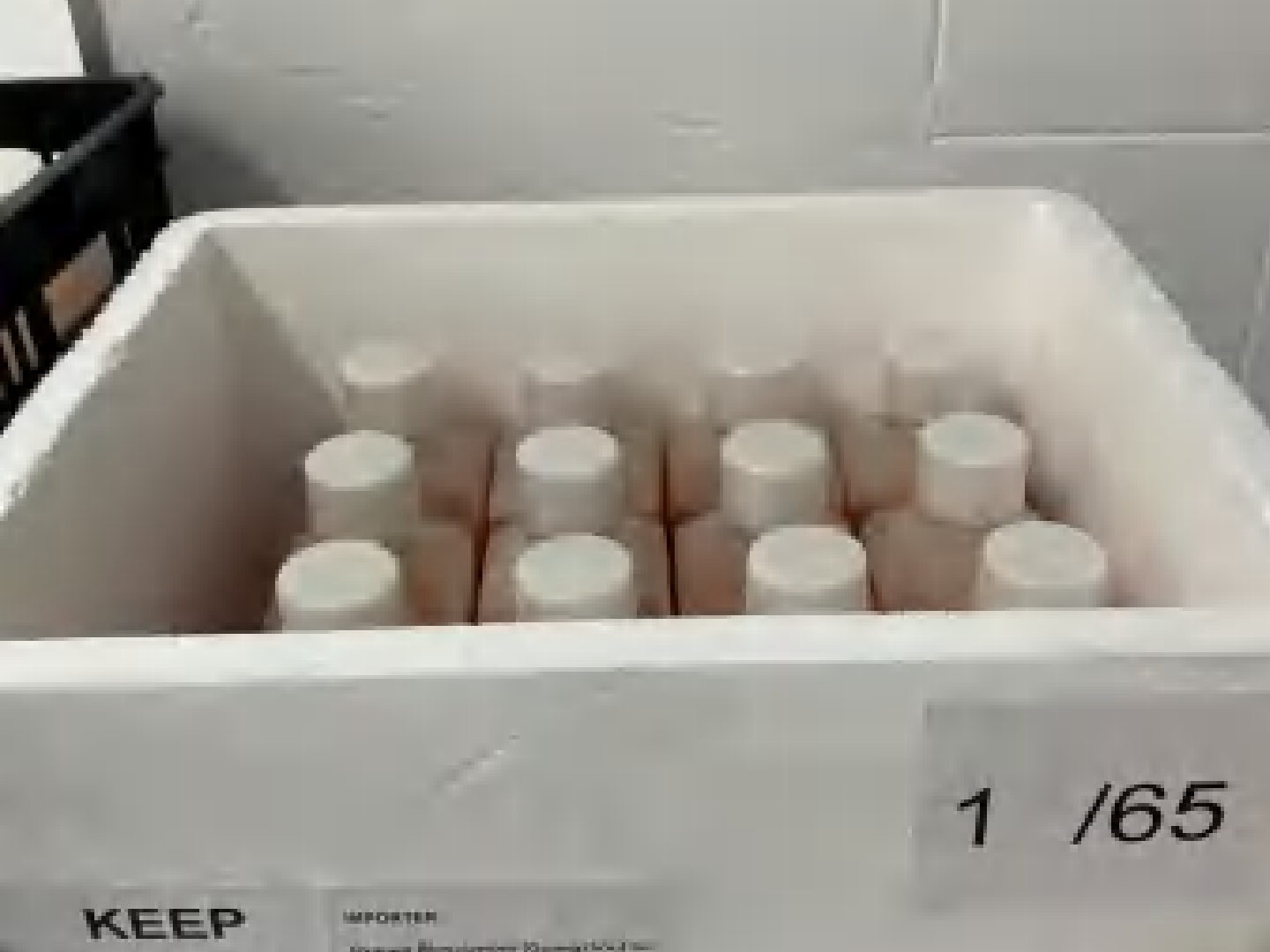
Final product cold storage

成品儲存室





# SHIPMENT PROCESS



LOADING ...



# LOADING PROCESS

Bottles are prepared in the conservators with dry ice and a temperature controller. A thermal blanket is added to finalize the process







**Our fleet of trucks  
transporting  
Tecnoblen products**

**Ensuring the safe  
transfer of our  
production towards  
the airport**





# CONTACT US

Email: [fbs@tecnoblen.com](mailto:fbs@tecnoblen.com)

Or through our official distributors

